



JOLIET JUNIOR COLLEGE

1901

(Business & Auxiliary Services)
1215 Houbolt Road
Joliet, Illinois 60431-8938

INSTRUCTIONS TO BIDDERS

Sealed proposals are invited for WEITENDORF ANIMAL WING AHU REPLACEMENT pursuant to specifications.

PROPOSALS:

Proposals will be received and publicly read aloud by the Joliet Junior College District #525, Joliet, Will County, Illinois, at the place, date and time hereinafter designated.

PLACE: [CLICK HERE TO JOIN THE PUBLIC BID OPENING AT THE SPECIFIED DATE/TIME](#)

DATE: JANUARY 29, 2025

FAXES ARE NOT ACCEPTABLE

TIME: 9:30 AM

Proposals received after this time will not be accepted.

Proposals must be submitted through the ESM Solutions electronic sourcing site. Please note that all vendors will have to complete an on-line registration process prior to submitting your proposal. A step-by-step supplier registration guide is posted to the college's website for your reference. General supplier guides are also available on the ESM website. If you have any questions during the registration process, contact ESM Solutions Customer Support (877) 969-7246 Option 3.

Registration Link:

<https://supplier.esmsolutions.com/registration#/registration/contactInformation/>

General Supplier Guide (ESM Documents):

<https://support.esmsolutions.com/hc/en-us/sections/115000917048-Supplier-Guides>

Supplier Registration Guide (JJC Document):

<https://www.jjc.edu/sites/default/files/Purchasing/FY2019/Supplier%20Registration%20Screenshots%20Final.pdf>

BID: WEITENDORF ANIMAL WING AHU REPLACEMENT

PRE-BID MEETING:

An optional pre-bid meeting will be held at the Weitendorf Agricultural Education Center, Room WD-1005, 17840 Laraway Road, Joliet, IL 60433 on JANUARY 15, 2025 at 3:00PM.

DELIVERY:

All prices must be quoted F.O.B., Joliet Junior College, 1215 Houbolt Road, Joliet, IL 60431 unless otherwise noted.

TAX EXEMPTION:

Joliet Junior College District #525 is exempt from Federal, State, and Municipal taxes.

SIGNATURE ON BIDS:

Joliet Junior College District #525 requires the signature on bid documents to be that of an authorized representative of said company.

Each bidder, by making his bid, represents that he has read and understands the bidding documents and that these instructions to bidders are a part of the specifications.

BIDDING PROCEDURES:

1. No bid shall be modified, withdrawn, or cancelled for sixty (60) days after the bid opening date without the consent of the College Board of Trustees.
2. Changes or corrections may be made in the bid documents after they have been issued and before bids are received. In such case, a written addendum describing the change or correction will be issued by the College to all bidders of record. Such addendum shall take precedence over that portion of the documents concerned, and shall become part of the bid documents. Except in unusual cases, addendum will be issued to reach the bidders at least five (5) days prior to date established for receipt of bids.
3. Each bidder shall carefully examine all bid documents and all addenda thereto, and shall thoroughly familiarize themselves with the detailed requirements thereof prior to submitting a proposal. Should a bidder find discrepancies or ambiguities in, or omissions from documents, or should they be in doubt as to their meaning, they shall, at once, and in any event, not later than ten (10) days prior to bid due date, notify the College who will, if necessary, send written addendum to all bidders. The college will not be responsible for any oral instructions. All inquiries shall be directed to the Director of Business & Auxiliary Services. After bids are received, no allowance will be made for oversight by bidder.

SUBSTITUTIONS:

1. Each bidder represents that his bid is based upon the materials and equipment described in the bidding documents.
2. Any dealer bidding an equal product must specify brand name, model number, and supply specifications of product. The Board shall be the sole judge of whether an article shall be deemed to be equal.
3. A bidder's failure to meet the minimum specifications as listed may result in disqualification of his bid.

REJECTION OF BIDS:

The bidder acknowledges the right of the College Board to reject any or all proposals and to waive informality or irregularity in any proposal received and to award each item to different bidders or all items to a single bidder. In addition, the bidder recognizes the right of the College Board to reject a

proposal if the proposal is in any way incomplete or irregular. The College Board may also award, at its discretion, only certain items quoted on. The College Board also reserves the right to reject the proposal of a Bidder who has previously failed to perform properly or complete on time contracts of a similar nature or a bid of a Bidder when investigation shows that Bidder is not in a position to perform the contract.

BUSINESS ENTERPRISE PROGRAM (BEP):

MINORITIES, FEMALES, AND PERSONS WITH DISABILITIES PARTICIPATION AND UTILIZATION PLAN:

Joliet Junior College will make every effort to use local business firms and contract with small, minority-owned, and/or women-owned businesses in the procurement process. Many solicitations contain a goal to include businesses owned and controlled by minorities, females, and persons with disabilities in the College's procurement and contracting processes in accordance with the State of Illinois' Business Enterprise for Minorities, Females, and Persons with Disabilities Act (30 ILCS 575).

Because these goals vary by business ownership status and category of procurement, we urge interested businesses to visit the Department of Central Management Services (CMS), [Business Enterprise Program \(BEP\)](#) web site to obtain additional details.

For all construction related projects, vendors are encouraged to utilize BEP certified suppliers and subcontractors. Bidders will be prompted to note BEP certifications within the ESM electronic bidding system.

PROPRIETARY INFORMATION:

Vendor should be aware that the contents of all submitted bids are subject to public review and will be subject to the Illinois Freedom of Information Act. All information submitted with your bid will be considered public information unless vendor identifies all proprietary information in the proposal by clearly marking on the top of each page so considered, "Proprietary Information." The Illinois Attorney General shall make a final determination of what constitutes proprietary information or trade secrets. While JJC will endeavor to maintain all submitted information deemed proprietary within JJC, JJC will not be liable for the release of such information.

ACKNOWLEDGEMENT OF ADDENDA:

Signature of company official on original document shall be construed as acknowledgement of receipt of any and all addenda pertaining to this specific proposal. Identification by number of addenda and date issued should be noted on all proposals submitted.

FAILURE TO ACKNOWLEDGE RECEIPT OF ADDENDA ON PROPOSAL SUBMITTED MAY RESULT IN DISQUALIFICATION OF PROPOSAL.

Bidders who obtain a copy of the bid from our web site are responsible for checking back on the site for any addenda issued.

CLERICAL ERRORS:

If applicable, all errors in price extensions will be corrected by Joliet Junior College and totals for award determination corrected accordingly, unless the bidder specifies that no change be made in the total submitted. In this case, all incorrect price extensions will be noted at "lot", and award

determination made on the basis of total price submitted.

SAMPLES:

Bidder may be required to furnish samples upon request and without charge to the College.

BID SECURITY:

A certified check or bank draft or bid bond, made payable to Joliet Junior College District #525, Will County, Illinois, **MUST** be submitted with the bid in the amount of **ten (10) percent of your total bid**. The bid security will be forfeited by the successful bidder in the event of the bidders failure to enter into a contract. Checks or drafts of unsuccessful bidders will be returned as soon as practicable after opening and checking the bids.

PAYMENTS:

Certified Payroll

1. With each pay application, contractors shall submit certified payroll in a format acceptable to Junior College District #525.

Partial Lien Waivers

1. The contractors' partial lien waiver, for the full amount of the payment, shall accompany the first payment application. Each subsequent payment application shall be accompanied by the contractor's partial waiver, and by partial waivers from all subcontractors and suppliers who were included in the immediately preceding payment application, to the extent of that payment.
2. Lien waivers from the Contractor and all subcontractors and suppliers shall accompany the first payment application when the amount of payment exceeds 50 percent of the total contract sum.

Final Lien Waivers: The contractor's request for final payment shall include:

1. The contractor's final lien waiver in the full amount of the contract.
2. Final lien waivers in the full amount of their contracts from all subcontractors and suppliers for which final lien waivers have not previously been submitted.

INSURANCE:

The successful bidder will be required to furnish a certificate of insurance in the following amounts:

The insurance coverage required here-in-under shall be the minimum amounts maintained by the Contractor and Subcontractors until all Work is completed and accepted by the Owner.

The Contractor will purchase and maintain "all risks" Builder's Risk property insurance, where applicable, subject only to such exclusions as have been specifically approved by the Owner in writing.

A. Workers Compensation

1. State: Statutory
2. Applicable Federal: Statutory
3. Employer's Liability:
 - a. \$1,000,000 per Accident
 - b. \$1,000,000 Occupational Disease

B. Commercial Comprehensive Liability

1. Each Occurrence: \$1,000,000
2. Products/Completed Operations Aggregate: \$2,000,000
3. Personal/Advertising Injury: \$1,000,000
4. General Aggregate: \$2,000,000
5. Policy shall include: \$2,000,000
 - a. Premises: Operations
 - b. Independent Contractors Liability
 - c. Products and Completed Operations: Maintained for minimum of one year after date of final Certificate for Payment, in full amount of the limits specified above.
 - d. Contractual Liability
 - e. Coverage for explosion (x), collapse (c), and underground (u).
6. The Commercial Comprehensive Liability policy shall include a contractual liability endorsement insuring the indemnity required by the contract. The indemnities shall be named as additional insured on the Contractor's Commercial Comprehensive Liability policy using Form CG 20 10 or its equivalent and shall name Joliet Junior College, its Board of Trustees, officers, employees and agents as additional named insured's at a minimum. The Contractor hereby agrees to effectuate the naming of such additional insured's as unrestricted additional insured's on the Contractor's policy. The additional insured endorsement shall provide the following:
 - a. That the coverage afforded the additional insurance will be primary/non-contributory insurance for the additional insurance with respect to claims arising out of operations performed by or on behalf of the Contractor.
 - b. That the policy shall contain a thirty (30) day notice of cancellation prior to the effective date thereof.
 - c. That the additional insureds have other insurance which is applicable to the loss, such other insurance will be on an excess or contingent basis.
 - d. That the amount of the company's liability under the insurance policy will not be reduced by the existence of such other insurance.
 - e. That the additional insureds will not be given less than thirty (30) days prior written notice of any cancellation thereof.
 - f. That the Contractor agrees to indemnify the College for any applicable deductibles.
 - g. That the insurance policy from an A.M. Best rated "secured" Illinois State licensed insurer.
 - h. The Contractor shall provide the College with a copy of its insurance policy or in the alternative and subject to the College's agreement, an excerpt of a page from the actual policy evidencing the additional insureds as provided for herein.
 - i. Contractor acknowledges that failure to obtain such insurance on behalf of the College constitutes a material breach of the contract and subjects Contractor to liability for damages, indemnification and all other legal remedies available to College. The Contractor is to provide the College at all times with a certificate of insurance, evidencing the above requirements have been met. The failure of the College to object to the contents of the certificate or the absence of it shall not be deemed a waiver of any and all rights held by the College.

- j. That enclosed is a copy of the endorsement providing additional insured's status and that the Contractor will furnish a Certificate of insurance evidencing the foregoing provisions.
- k. Please include clause below in the policy:
It is agreed that Joliet Junior College, its Board of Trustees, officers, employees, agents and (Architect/Engineer Name) are additional insureds on the policy.

C. Business Auto Liability (including owned, non-owned and hired vehicles).

- 1. Bodily injury
 - a. \$1,000,000 per person
 - b. \$2,000,000 per accident
- 2. Property damage: \$1,000,000 OR
- 3. Combined Single limit: \$1,000,000

D. Umbrella

- 1. Umbrella Excess Liability: \$4,000,000
- 2. If the Contractor's Workers Compensation, Commercial General Liability and Business Auto policies do not have these minimum limits, an Umbrella policy written by an insurance company acceptable to the Owner may be used to meet the minimum limits required.
- 3. Follow-form or Primary/Non-Contributory (PNC) status and Waiver of Subrogation (WOS) for Joliet Junior College

All such policies of insurance shall be written by companies approved by the College and Certificates of Insurance shall be furnished to the College. The College shall be listed as an additional named insured under such policies. Each policy shall require at least 30 days' notice to the College in the event of cancellation. The contractor agrees to indemnify, defend, and hold harmless the College from and against all suits or claims, which may be based upon any injury to or death of any person or persons or damage to property, which may occur or which may be alleged to have occurred in the course of the performance of this Agreement by the Contractor, whether such sum claim shall be made by an employee of the Contractor, by a third person or their representatives, or whether or not it shall be claimed that the said injury, death, or damage or cause through a negligence act or omission of the Contractor; and the all charges of attorneys and all costs and other expenses arising there from or incurred in connection therewith; and if any judgment shall be rendered against the College in any such action or actions, the Contractor, at its own expense, shall satisfy and discharge the same.

PERFORMANCE BONDS:

The successful bidder on this proposal must furnish a performance bond and a labor and material payment bond made out to Junior College District #525, prepared on an approved form, as security for the faithful performance of their contract, within ten (10) days of their notification that their bid has been accepted. The surety thereon must be such surety company or companies as are authorized and licensed to transact business in the State of Illinois and have an A-XIV best rating. Attorneys in fact who sign bid bonds must file with each bond a certified copy of their power of attorney to sign said bonds. The performance bond is an amount equal to one hundred and ten percent (110%) of the contract sum. Such bonds shall be in force from the date of signing of the contract until one year after issuing of final certificate of payment. The cost of the bonds shall be included in the bidder's proposal.

LAWS AND ORDINANCES:

In execution of the work, the Contractor shall comply with applicable state and local laws, ordinances and regulation, the rules and regulations of the Board of Fire Underwriters, and OSHA standards.

SEX OFFENDER REGISTRATION REQUIREMENT NOTIFICATION:

Illinois Compiled Statutes (730 ILCS 150/2) requires that any person who is required by law to register as a sex offender and who is either a student or an employee at an institution of higher education, must also register with the police department of the institution they are employed by or attending. For purposes of this act, a student or employee is defined as anyone working at or attending the institution for a period of five (5) days or an aggregate period of more than thirty (30) days during a calendar year. This includes persons operating as or employed by an outside contractor at the institution. Anyone meeting the above requirements is required to register at the Campus Police Department located in G1013, within five (5) days of enrolling or becoming employed. Persons failing to register are subject to criminal prosecution.

DAMAGE AND NEGLIGENCE:

The Contractor agrees to indemnify and save harmless the College and employees from and against all loss, including costs and attorney’s fees, by reasons or liability imposed by law upon the College for damages because of bodily injury, including death at any time resulting therefrom, sustained by any person or persons or on account of damage to property including loss of use thereof as provided in the General Conditions and Supplementary Conditions.

College shall not be responsible for damages, delays, or failure to perform on its part resulting from acts or occurrences of force majeure. “Force majeure” means any (a) act of God, landslide, lightning, earthquake, hurricane, tornado, blizzard, floods and other adverse and inclement weather conditions; (b) fire, explosion, flood, acts of a public enemy, war, blockade, insurrection, riot or civil disturbance; (c) labor dispute, strike, work slow down, picketing, primary boycotts, secondary boycotts or boycotts of any kind and nature, or work stoppages; (d) any law, order, regulation ordinance, or requirement of any government or legal body or any representative of any such government or legal body; (e) inability to secure necessary materials, equipment, parts or other components of the project as a result of transportation difficulties, fuel or energy shortages, or acts or omission of any common carriers; or (f) any other similar cause or similar event beyond the reasonable control of College.

INVESTIGATION OF BIDDERS:

The College will make any necessary investigation to determine the ability of the bidder to fulfill the proposal requirements. Joliet Junior College reserves the right to reject any proposal if it is determined that the bidder is not properly qualified to carry out the obligation of the contract.

DISCLOSURE:

Vendor shall note any and all relationships that might be a conflict of interest and include such information with the bid.

APPRENTICESHIP AND TRAINING PROGRAMS:

The bidder and all bidder’s subcontractors must participate in applicable apprenticeship and training programs approved by and registered with the United States Department of Labor Bureau of Apprenticeship and Training. The apprenticeship and training programs(s) must be in the same trade in which the firm shall be performing work on behalf of the College under the Contract. This

provision shall not apply to federally funded construction projects if, in the opinion of College, such application would jeopardize the receipt or use of federal funds in support of such project.

A STATEMENT TO THE ABOVE EFFECT HAS BEEN ADDED TO THE BID FORM. BIDDERS MUST BE A MEMBER OF AN APPROVED APPRENTICESHIP PROGRAM PRIOR TO BID OPENING ON THE PROJECT. FAILURE TO LIST REQUIRED INFORMATION MAY RESULT IN DISQUALIFICATION OF BID”.

SUBCONTRACTORS:

Bidders must state on the proposal form all subcontractors he intends to use for this project. Failure to do so may be cause for rejection of bid.

PREVAILING WAGE RATE:

The successful bidder must pay not less than the prevailing hourly wage rate determined by the Illinois Department of Labor for the county where the contract is executed and the craft or type of worker needed to execute the contract. See the prevailing wage scale attached.

If, during the course of work under this contract, the Department of Labor revises the prevailing rate hourly wages to be paid under this contract for any trade or occupation, Owner, will notify Contractor and each Subcontractor of the changes in the prevailing rate of hourly wages. Contractor shall have the sole responsibility and duty to ensure that the revised prevailing rate of hourly wages is paid by contractor and all Subcontractors to each worker to whom a revised rate is applicable. Revisions to the prevailing wage as set forth above shall not result in an increase in the Contract Sum.

In compliance with the Office of the Attorney General the following is also required of all bidders:

Payment of Prevailing Wage:

- The Act requires that all laborers, workers and mechanics employed by or on behalf of a public body in the construction of public works be paid the general prevailing rate of hourly wages (including allotments for training and approved apprenticeship programs, health and welfare, insurance, vacation and pension benefits) for work of a similar character in the locality in which the work is performed. See 820 ILCS 103/3. The Act contains all relevant definitions, including those for the terms “public body”, “public works” and “general prevailing rate of hourly wages”, which will assist you in the understanding its requirements and your responsibilities. See 820 ILCS 130/2.
- The Illinois Department of Labor publishes the current prevailing wage rate. See <http://www.state.il.us/agency/idol/rates/rates.htm>. The rate is revised regularly and such revision takes effect immediately.

Specifications and Contractual Language:

- Public bodies must insert a provision or stipulation requiring the payment of the prevailing wage rate into every public works resolution or ordinance, call for bids, project specification and contract. See 820 ILCS 130/4(a).
- Contractors and subcontractors must insert a provision or stipulation regarding the payment of the prevailing wage rate into every public works project and bid specification, subcontract, and contractor’s bond. See 820 ILCS 130/4(b), (c).
- Contractors or construction managers who have been awarded public works contracts must post the relevant prevailing wage rate(s) at a location on the project site that is easily accessible by workers. See 820 ILCS 130/4(f).

Record-Keeping Responsibilities:

- All contractors and subcontractors must create and keep for at least three years, records of all laborers, mechanics, and other workers employed by them on a public works project. See 820 ILCS 130/5(a) (1).
- These records must include each worker's name, address, telephone number (if available), social security number, classification(s), hourly wages paid in each pay period, number of hours worked each day, and the starting and ending times of each work day. Each contractor and subcontractor is required to make these records available for inspection by the public body's agents or Illinois Department of Labor officials at a reasonable time and place upon seven business days notice. See 820 ILCS 130/5(a) (1), (b).

Certified Payroll Records:

- A contractor or subcontractor participating in a public works project must also submit a Certified Payroll the public body every month. This Certified Payroll must consist of a complete copy of the records required to be kept under Section 5(a)(1) of the Act, discussed above (with the exception of daily work starting and ending times). See 820 ILCS 130/5(a)(2).
- The monthly Certified Payroll shall also include a statement signed by the contractor or subcontractor submitting that: (1) the records are true and accurate; (2) the hourly rate paid to each worker is not less than the general prevailing wage rate required; and (3) the contractor or subcontractor is aware that filing a Certified Payroll that he or she knows to be false is a class B misdemeanor. See 820 ILCS 130/5(a)(2).
- The Act requires that a public body shall keep all Certified Payrolls submitted pursuant to the Act for at least three years. See 820 ILCS 130/5(a)(2). The retention of these monthly Certified Payroll submissions for three years by public bodies is crucial to the State of Illinois' efforts to enforce the Act and will be of particular interest to the Attorney General's office in the coming months.

Failure to comply with the Act's Requirements:

- No public works project may be instituted unless the provisions of the Act have been met. The Illinois Department of Labor is empowered to sue for injunctive relief against the awarding of any public works contract, or continuation of work under any such contract, if it is not in compliance with the Act's prerequisites. Contracts that are not in compliance with the Act's prerequisites are void as against public policy. See 820 ILCS 103/11.

Please note that this is not a complete list of all relevant requirements and prerequisites under the Act. All contractors and subcontractors rendering services under this contract must comply with all requirements of the Act, including but not limited to, all wage, notice and record keeping duties. For a full understanding of all of the Act's requirements and prerequisites, as well as the text of the Act and all related regulations, please see the Illinois Department of Labor's website at www.state.il.us/agency/idol/laws/Law130.htm.

BLACKOUT PERIOD:

After the College has advertised for bids, no pre-bid vendor shall contact any College officer(s) or employee(s) involved in the solicitation process, except for interpretation of bid specifications, clarification of bid submission requirements or any information pertaining to pre-bid conferences. Such bidders or sub-bidders making such request shall be made in writing at least seven (7) days prior to the date for receipt of bids. No vendor shall visit or contact any College officers or employees until after the bids are awarded, except in those instances when site inspection is a prerequisite for the submission of a bid. During the black-out period, any such visitation, solicitation

or sales call by any representative of a prospective vendor in violation of this provision may cause the disqualification of such bidder's response.

BID QUANTITIES:

The College Board will reserve the right to increase or decrease, within reasonable limits, such quantities as need requires and at the unit price stated.

BID AWARDS:

The successful contractor, and/or any contractor shall not proceed on this bid until it receives a purchase order from the college. Failure to comply is the risk of that contractor.

TERMINATION OF FUNDING:

JJC's contractual obligations will be subject to termination and cancellation without penalty, accelerated payment, or other recoupment mechanism as provided herein in any fiscal year for which the Illinois General Assembly or other legally applicable funding source fails to make an appropriation to make payments under the terms of this Contract. In the event of termination for lack of appropriation, the Vendor shall be paid for services performed under this Contract up to the effective date of termination. JJC shall give notice of such termination for funding as soon as practicable after JJC becomes aware of the failure of funding.

CHANGES TO CONTRACT AFTER BID AWARD:

There shall be no deviations from any work without a written change order. All change orders must be approved by the Director of Business & Auxiliary Services or Vice President of Administrative Services as well as executed by the successful contractor.

If a change order or aggregate of change orders are 10% or more of the contract price, and such change orders are not approved, in writing, by either the Director of Business & Auxiliary Services or Vice President of Administrative Services, the successful contractor shall not be entitled to any type of compensation for services or materials provided.

GENERAL:

Joliet Junior College is committed to a policy of non-discrimination on the basis of sex, handicap, race, color, and national or ethnic origin in the admission, employment, educational programs, and activities it operates. Inquiries should be addressed to the Director of Human Resources.

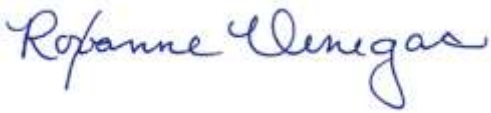
The contractor (or vendor) shall agree to save and hold harmless the Joliet Junior College District #525, the members of its College Board, its agents, servants and employees, from any and all actions or causes of action, or claim for damages, including the expense of defending suit, arising or growing out of the performance of, or failure to perform its contract.

The parties to any contract (inclusive of subcontractors) resulting from this bid hereto shall abide by the requirements of Executive Order 11246, 42 U.S.C. Section 2000d and the regulations thereto, as may be amended from time to time, the Illinois Human Rights Act, and the Rules and Regulations of the Illinois Department of Human Rights. Any vendor awarded a contract as a result of this bid must comply with the Illinois Department of Human Rights Equal Opportunity Act/Rules Sections 750.5 and 5/2-105.

Pursuant to Section 50-80 of the Illinois Procurement Code, each bidder who submits a bid or offer for a State of Illinois contract under this Code shall have a sexual harassment policy in accordance with paragraph (4) of subsection (A) of Section 2-105 of the Illinois Human Rights Act. A copy of the policy shall be provided to the college entering into the contract upon request.

B25013

The Customer reserves the right to request additional information after your proposal has been submitted.



Roxanne Venegas
Purchasing Manager

JOLIET JUNIOR COLLEGE
ILLINOIS COMMUNITY COLLEGE DISTRICT #525
(Business & Auxiliary Services)
1215 Houbolt Road
Joliet, Illinois 60431-8938
Telephone: (815) 280-6640
Fax: (815) 280-6631

INFORMATION PERTAINING TO OUR BIDS CAN BE FOUND AT THE FOLLOWING WEBSITE:
<http://www.jjc.edu/community/vendors>

**QUESTIONS PERTAINING TO OUR BIDS CAN BE SUBMITTED THROUGH THE ESM
ELECTRONIC SOURCING SOLUTION.**

**WEITENDORF ANIMAL WING AHU REPLACEMENT – SCOPE OF WORK****1.0 OVERVIEW OF THE PROJECT****1.1 General Project Information**

Joliet Junior College is replacing the AHU in the animal wing at our Weitendorf facility. The construction of this project will be completed through a public bid process for a general contractor award. For the duration of this document, the term "contractor" shall be interpreted to include the general contractor and/or any subcontractors under their supervision. The general contractor is ultimately responsible for the completion of the project, which includes all required materials and labor as outlined in the drawings, specifications, addenda, and this scope of work document.

2.0 SCOPE OF WORK OVERVIEW**2.1 General Contractor Requirements**

- 2.1.1 The general contractor (referred to as "contractor" in this document) shall be responsible for coordinating all subcontractors and ensuring that all work required to complete the project is executed. This coordination includes developing an overall schedule with input from the subcontractors. The general contractor will schedule all work to ensure that no tasks are performed out of sequence. The general contractor will lead the project, conducting weekly meetings with the owner, architect/engineer (A/E), and relevant subcontractors in attendance. Meeting minutes, notes, and any necessary logs will be provided. Joliet Junior College will not be responsible for the coordination or sequencing of subcontractors under the general contractor. However, Joliet Junior College will handle the coordination of purchasing and installing the security card access system, as well as any security cameras within the space (with card access cabling and camera data cabling being the responsibility of the general contractor's electrical subcontractor). Furniture will be provided and installed by Joliet Junior College under a separate contract.
- 2.1.2 All work shall be completed in strict accordance with the drawings and specifications. Existing conditions must be field verified, and the general contractor is responsible for ensuring the finished product aligns with the project design and this scope of work. Unknown or concealed conditions may warrant an adjustment to the scope. However, any existing conditions that require modification and are visible during the bid process, but not shown in the documents, will be the responsibility of the general contractor.
- 2.1.3 If there is a conflict between the plans, specifications, or this scope document, the contractor shall provide the most stringent, highest quality, or greatest quantity of work and/or materials, unless otherwise directed by a written addendum or the contract.
- 2.1.4 There will be no permit process or inspections by the City of Joliet/Will County. However, the contractor shall be responsible for contacting the state plumbing inspector and state fire marshal for inspections, if required.

- 2.1.5 It is the general contractor's responsibility to provide this scope of work, along with all drawings and specifications, to their subcontractors during both the bid process and construction. The general contractor is ultimately responsible for their bid and will not be issued a change order if one discipline is shown on another discipline's drawings or specifications. For example, if the architectural drawings show an item requiring electrical power that is not depicted on the electrical drawings, the general contractor will still be responsible for it, and it will not result in a change order due to their electrical subcontractor's not accounting for it. (The general contractor must provide all drawings to their subcontractors during the bid process.)
 - 2.1.6 The contractor shall furnish all shop drawings, catalog cuts, submittals, mix designs, or any other necessary submittals within ten (10) days of the contract award for the architect's review and approval. Shop drawings that require additional time to develop shall be coordinated with the owner and architect/engineer (A/E). The contractor shall be responsible for developing a master shop drawing submittal schedule.
 - 2.1.7 If applicable to this project, the contractor shall be responsible for any through-wall, through-floor, and/or through-roof penetrations related to their scope of work. If this work will impact the operation of adjacent classrooms, the contractor shall notify the owner prior to starting any work to coordinate proper scheduling.
 - 2.1.8 If applicable to this project, any saw cutting of existing concrete floors shall require the contractor to use ground penetrating radar (GPR) to locate any tension cables within the existing slab. If any cables are discovered, the contractor shall proceed with caution during the demolition of the concrete slabs to avoid cutting through any tension cables.
 - 2.1.9 If applicable to this project, regardless of the requirements in the project drawings and specifications: All copper piping and fittings shall be soldered; Propress-type fittings are not permitted.
 - 2.1.10 The contractor's personnel shall comply with Joliet Junior College's requirements for mandatory orange or yellow safety vests (no offensive messages or graphics), hard hats, safety glasses, and safety shoes, which must be worn at all times. The general contractor shall submit their safety plan to JJC, and the plan shall be maintained on-site for the duration of the project.
- 2.2 Except as otherwise expressly provided herein, the contractor shall provide all necessary and competent labor, supervision, tools, equipment, materials, services, testing devices, and any other items required for complete installation in accordance with the contract documents, including but not limited to:
- 2.2.1 The contractor shall provide all necessary labor and material to ensure a safe working environment in accordance with all OSHA requirements, whether

specified in the drawings, specifications, or not. This includes, but is not limited to, all temporary barricades, ramps, fire extinguishers and stands, signage, and other safety measures.

- 2.2.2 The contractor shall provide any necessary dust and access protection around the construction area. Work zone shall have proper barricades, caution tape and signage.
 - 2.2.4 The contractor shall provide necessary cast in place concrete reinforced pad floor preparation to receive the air handling unit per the plans and specifications.
 - 2.2.5 Should an exterior/outdoor staging area for material or equipment be necessary, the contractor is to provide chain link fencing around the perimeter and shall be responsible for security. The location of this staging area is to be coordinated with JJC staff.
 - 2.2.6 The contractor shall restore all adjacent landscape areas that may be disturbed from construction activities (including, not limited to replace trees, bushes, repair ruts, place grass seed, etc.).
 - 2.2.7 The contractor shall provide all dumpsters required for the project. Contractor to coordinate location of dumpsters with JJC staff.
 - 2.2.8 The contractor shall be solely responsible for daily site clean-up. The contractor is also responsible for maintaining a clean and safe work environment, including the site and surrounding areas. Any unclean or unsafe conditions must be promptly addressed and corrected by the contractor.
 - 2.2.9 The contractor shall coordinate all deliveries with their subcontractors.
 - 2.2.10 General contractor to provide all final cleaning of the entire project.
- 2.3 Any demolition required as part of this project falls under the scope of the general contractor.

3.0 SCHEDULE AND OCCUPANCY DATE

- 3.1 The pre bid agenda document includes a construction schedule. The contractor shall provide adequate manpower and, if necessary, any required overtime to meet the JJC completion date. Although there are no liquidated damages associated with this project, failure to meet the occupancy date may result in a negative evaluation (also refer to item 3.3). Only change orders initiated by JJC requiring additional time will affect the occupancy date.
- 3.2 The contractor shall submit a detailed construction schedule, including all related sub-tasks, milestones, and other key dates, as part of the preconstruction meeting with JJC. This schedule must meet or improve upon the schedule outlined in the bid documents. The schedule shall be updated, expanded, and reviewed at each weekly progress meeting.
- 3.3 At any time during the course of construction, if JJC determines that the project is at risk of not meeting the occupancy date, JJC reserves the right to hire additional support at the contractor's expense. Refer to paragraph 2.3 in the sample contract provided within the bid documents.

4.0 WEEKLY PROJECT MEETINGS

- 4.1 The general contractor will conduct weekly project meetings and all documentation with pertinent sub-contractors, the A/E and JJC team members in attendance. This weekly meeting will take place in a conference room in close proximity to the project site. A standing day and time will be coordinated with the awarded contractor.
- 4.2 Weekly meetings shall include prior week Meeting Minutes, Agenda, Project Status Report (PSR), Gantt Chart Schedule, RFI Log, Submittal Log, Material Procurement Log (all items with more than a 1 week lead time).
 - 4.2.1 Agenda – Contractor to provide an agenda for every meeting. This agenda should, as a minimum, cover the topics of previous meeting minutes questions or corrections, progress update/schedule review (the PSR document and Gantt Chart), safety related items of PPE, hazards, accidents, etc. Review of RFI Log, Submittal Log, Material Procurement Log, miscellaneous items for question or discussion. The first meeting at the beginning of each month should have the last agenda item as review of contractor pay application. This weekly agenda shall be distributed a minimum of 24 hours prior to the weekly meeting date. Contractor is to reach out to all project stakeholders prior to preparing a weekly agenda to see if they need to add a discussion topic for that week.
 - 4.2.2 Project Status Report – Contractor is to provide a weekly Project Status Report (PSR) that documents all activities completed the previous week, should include a two-week look ahead of activities, and expected deliverables in the next ten days. Joliet Junior College PSR document within Smartsheet to be used.
 - 4.2.3 Gantt Chart – Contractor to provide an updated Gantt chart schedule at each meeting that shows the schedule completing on time or ahead of JJC schedule provided in bid documents. Contractor to review schedule with detailed explanation of any changes to the schedule.

- 4.2.4 RFI Log – Contractor to maintain a Request for Information (RFI) Log. Joliet Junior College RFI document within Smartsheet to be used, or contractor can provide a means for RFI documentation tracking.
 - 4.2.5 Submittal Log – Contractor to maintain a Submittal Log. Joliet Junior College submittal log within Smartsheet to be used, or contractor can provide a means for Submittal Log documentation tracking.
 - 4.2.6 Material Procurement Log – Contractor to maintain a Material Procurement Log for any item with more than a one week lead time. Joliet Junior College material procurement document within Smartsheet shall be used, or contractor can provide a means for Material Procurement Log documentation tracking.
- 8.3 Contractor may use their own platform for document control and include the A/E and JJC personnel for access. Should the contractor not have a platform, JJC shall use our Smartsheet platform giving the contractor and their subs access. Any training time to learn Smartsheet will be at the contractors' expense.

5.0 PROJECT CLOSEOUT

- 5.1 Contractor to ensure the following are complete as part of the project close out process:
- 5.1.1 All as-built drawings/documents are complete. As-builts must be turned over in PDF or AutoCAD format.
 - 5.1.2 All Operations & Maintenance manuals have been provided to JJC. All training has been completed with contacts of who and when to call.
 - 5.1.3 Any and all potential energy rebate forms submitted. Rebates which are submitted will be payable to Joliet Junior College listing the director of facilities department Patrick Van Duyne on the forms.
 - 5.1.4 All warranties have been reviewed and provided.
 - 5.1.5 Obtain all final unconditional final lien waivers from subs and suppliers.
 - 5.1.6 Certificate of substantial completion issued for start of warranty.
 - 5.1.7 Completed punch list documentation.
 - 5.1.8 All close-out documents are well organized and provided in a project manual as well as submitted electronically.

**PROJECT MANUAL
FOR**

**WEITENDORF MAKE-UP AIR UNIT REPLACEMENT
17840 W LARAWAY ROAD
JOLIET, ILLINOIS 60433**

OWNER

**JOLIET JUNIOR COLLEGE
1215 HOUBOLT ROAD
JOLIET, ILLINOIS 60431**

ARCHITECT / ENGINEER

**KLUBER, INC.
41 W. BENTON STREET
AURORA, ILLINOIS 60506**



BID DOCUMENTS

**SECTION 00 01 01
PROJECT TITLE PAGE**

PROJECT MANUAL

FOR

WEITENDORF MAKE-UP AIR UNIT REPLACEMENT

17840 W LARAWAY ROAD

JOLIET, ILLINOIS 60433

OWNER

JOLIET JUNIOR COLLEGE

1215 HOUBOLT ROAD

JOLIET, ILLINOIS 60431

ARCHITECT / ENGINEER

KLUBER ARCHITECTS + ENGINEERS

41 W. BENTON STREET

AURORA, ILLINOIS 60506

END OF DOCUMENT

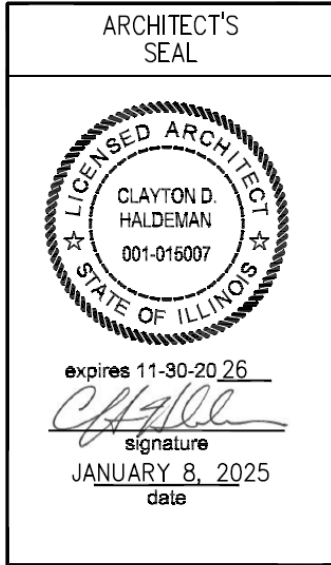
**SECTION 00 01 07
SEALS PAGE**

1.01 DESIGN PROFESSIONALS' SEALS

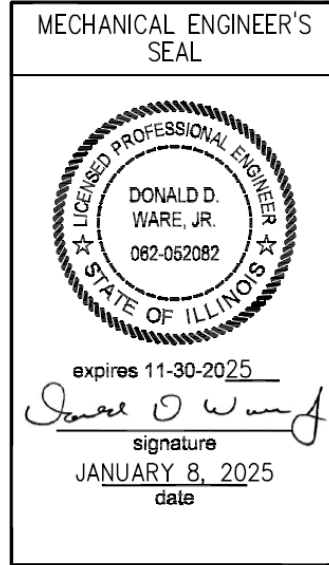
A. ARCHITECT

B. MECHANICAL ENGINEER

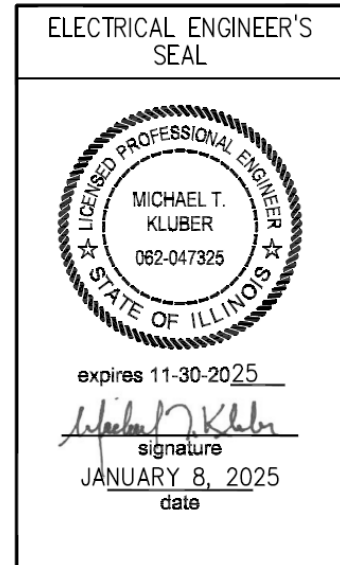
C. ELECTRICAL ENGINEER



"G" SERIES, "AME" SERIES



"G" SERIES, "AME" SERIES,
"M" SERIES



"G" SERIES, "AME" SERIES

END OF DOCUMENT

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GENERAL

G100 COVER SHEET, GENERAL NOTES, SYMBOLS & DRAWING INDEX

MECHANICAL

AME310 PARTIAL ARCHITECTURAL, MECHANICAL, & ELECTRICAL FLOOR PLANS

M410 MECHANICAL SCHEDULES, DETAILS, & TEMPERATURE CONTROLS

END OF DOCUMENT

**SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Submittals for review, information, and project closeout.
- B. Architect/Engineer-provided CAD files.
- C. Number of copies of Submittals.
- D. Submittal procedures.

1.02 RELATED REQUIREMENTS

- A. Section 01 70 00 - Execution and Closeout Requirements: Additional coordination requirements.
- B. Section 01 78 00 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
 - 1. Product data.
 - 2. Shop drawings.
- B. Submit to Architect/Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.

3.02 SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
 - 1. Design data.
 - 2. Certificates.
 - 3. Test reports.
 - 4. Inspection reports.
 - 5. Manufacturer's instructions.
 - 6. Manufacturer's field reports.
 - 7. Other types indicated.
- B. Submit for Architect/Engineer's knowledge as contract administrator or for Owner.

3.03 SUBMITTALS FOR PROJECT CLOSEOUT

- A. Submit Correction Punch List for Substantial Completion.
- B. Submit Final Correction Punch List for Substantial Completion.
- C. When the following are specified in individual sections, submit them at Project Closeout:
 - 1. Project record documents.
 - 2. Operation and maintenance data.

3. Warranties.
4. Bonds.
5. Other types as indicated.

D. Submit for Owner's benefit during and after Project completion.

3.04 ARCHITECT/ENGINEER-PROVIDED CAD FILES

- A. After the execution of the Contract, Architect/Engineer will provide, free of charge, upon receipt of a properly completed and signed request utilizing "Electronic Data Transfer Consent Form" at the end of this Specification Section, CAD files depicting graphic information for the project as follows:
1. Architectural Floor Plans: Column grid, walls, floors, stairs, doors, windows, room numbers, ceiling grid, mechanical diffusers, plumbing fixtures, sprinkler heads (if depicted in Bid Documents) and lights.
- B. Contractor acknowledges and accepts that the Architectural Floor Plans do not contain structural, mechanical, electrical, plumbing, fire protection and other building systems information depicted in the Bidding Documents. Examples of information not contained in these files include, but are not limited to, title blocks, keynotes, schedules, mechanical ductwork and equipment, electrical device symbols, circuit numbers and home runs, plumbing equipment, piping runs and riser diagrams, and architectural/engineering text or details. No other CAD files, data or information will be provided.
- C. Only a request from The Contractor will be honored. Subcontractors must obtain the files from the Contractor.
- D. In submitting a request, Contractor acknowledges that:
1. Architect/Engineer bears no responsibility for the data or its transmission,
 2. Use of the data by the Contractor or his Subcontractors in no way relieves the Contractor of his obligations under the Contract,
 3. Contractor is solely liable for any and all claims arising from any and all products generated by the Contractor or its Subcontractors employing the data,
 4. Contractor and its Subcontractors have a limited, non-exclusive license to use the data solely in connection with the Work of the Project.
 5. Architect/Engineer retains all rights, including copyright, to the data.

3.05 NUMBER OF COPIES OF SUBMITTALS

- A. Documents for Review:
1. Small Size Sheets: Not Larger Than 11 x 17 inches. Submit 2 paper copies, one of which will be retained by Architect/Engineer. Contractor shall make his own copies from the original returned by the Architect.
 - a. Contractor's Option: In lieu of paper copies indicated above, submit in Adobe PDF electronic file format via email. Architect will return a reviewed copy in Adobe PDF electronic file format via email. Create PDFs at native size and right-side up; illegible files will be rejected.

2. Large Size Sheets: Larger Than 11 x17 inches; 36 x 48 inches maximum. Submit 2 paper copies, one of which will be retained by Architect/Engineer.
 - a. Contractor's Option: In lieu of paper copies indicated above, submit in Adobe PDF electronic file format via email. Architect will return a reviewed copy in Adobe PDF electronic file format via email. Create PDFs at native size and right-side up; illegible files will be rejected.
- B. Documents for Information: Submit one copy.
- C. Extra Copies at Project Closeout: See Section 01 78 00.

3.06 SUBMITTAL PROCEDURES

- A. Product Data Procedures:
 1. Submit only information required by individual specification sections.
 2. Collect required information into a single submittal.
 3. Do not submit (Material) Safety Data Sheets for materials or products.
- B. Shop Drawing Procedures:
 1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work.
 2. Do not reproduce Contract Documents to create shop drawings.
 3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.
- C. Transmit each Submittal with a copy of approved Submittal form.
- D. Transmit each Submittal with AIA Form G810.
- E. Sequentially number the transmittal form. Revise Submittals with original number and a sequential alphabetic suffix.
- F. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.
- G. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
- H. Deliver Submittals to Architect/Engineer at business address.
- I. Schedule Submittals to expedite the Project, and coordinate submission of related items.
- J. For each Submittal for review, allow 20 days excluding delivery time to and from the Contractor.
- K. Clearly identify variations from the Contract Documents. Regardless of the type of variation, Contractor is solely responsible for errors in the field that arise from Submittal variations from the requirements of the Contract Documents if those variations were not expressly noted to specifically identify for and describe to the reviewer the nature of the variation from the Contract Documents.
- L. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.

- M. Correlate submitted items with specified products; clearly indicate the specified product that corresponds to each submitted item.
- N. When options or optional features available for a Product are indicated in a Submittal, and selections for those options/features are indicated in the Contract Documents, identify on the Submittal the selection indicated in the Contract Documents.
- O. Provide space for Contractor and Architect/Engineer review stamps.
- P. When revised for resubmission, using clouds, highlights or other means acceptable to the Architect, identify all changes made since previous submission. Resubmittals that do not clearly identify all changes may be delayed and/or returned to the Contractor unrevised.
- Q. The Contractor is entitled to 1 Resubmittal of any Shop Drawing, Product Data, or Closeout Submittal item rejected by the Architect or returned by the Architect for further action. Thereafter, the Contractor shall pay the cost of all further Architect's reviews of Shop Drawing, Product Data or Closeout Submittal, at a rate of \$200.00/hour. Cost of such further reviews will be deducted from the Contract Sum by Change Order.
- R. Distribute reviewed Submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
- S. Submittals not requested will not be recognized or processed.
- T. Submittal reviews may be delayed and/or Submittals may be returned unrevised for any of the following reasons:
 - 1. Submittals submitted outside the scheduled dates of the Submittal Schedule.
 - 2. Submittals are incomplete or are missing information.
 - 3. Submittals are not submitted in accordance with procedures outlined in this Section (i.e. spec Section number not indicated, missing Contractor's review stamp, submitted items not correlated with specified products).

3.07 SUBMITTAL REVIEW

- A. Submittals for Review: Architect/Engineer will review each submittal, and approve, or take other appropriate action.
- B. Architect/Engineer's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.

END OF SECTION

ELECTRONIC DATA TRANSFER CONSENT FORM

Project Name: WEITENDORF MAKE-UP AIR UNIT REPLACEMENT
17840 W LARAWAY ROAD
JOLIET, ILLINOIS 60433

Project No.: 24-292-1573

Owner: JOLIET JUNIOR COLLEGE

Your Work: _____

KLUBER, INC. (hereinafter referred to as "Kluber") an Illinois corporation, is providing electronic data to you solely at your request and for your convenience. By accepting and opening any of the electronic data files, you agree that Kluber bears no liability for the data or its transmission to you and that you are solely liable for any and all claims referring or relating to any and all products you, or your Subcontractors, may generate with the data.

You acknowledge that you have a limited non-exclusive license to use the information solely in connection with your work on the project captioned above, and that Kluber retains all rights, including copyright, to the data.

Acknowledged by: _____
(Printed Name) (Signature)

Company: _____

Date: _____ Email: _____

Architectural Floor Plans are transmitted for the contractors' use as backgrounds for shop drawings and as-built drawings, and, as such, contain graphic information for column grid, walls, floors, stairs, doors, windows, room numbers, ceiling grid, lights, diffusers and sprinkler heads where indicated on Bid Documents. Plans do not contain title blocks, keynotes, schedules, mechanical ductwork and equipment, electrical device symbols, circuit numbers and home runs, plumbing equipment, piping runs and riser diagrams, and architectural/engineering text and details. Plans depict entire floors and are not formatted, partial plans as depicted in the Bidding Documents. Files are provided in R2013 .DWG format.)

**SECTION 01 41 00
REGULATORY REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General.
- B. Definitions.
- C. Quality Assurance.
- D. Regulatory Requirements.

1.02 RELATED SECTIONS

- A. Section 01 42 00 - References.

1.03 GENERAL

- A. Comply with all applicable laws, rules, regulations, codes and ordinances.
- B. If the Contractor observes that the Contract Documents may be at variance with specified codes, notify the Architect/Engineer immediately. Architect/Engineer shall issue all changes in accordance with the General Conditions.
- C. It shall not be the Contractor's primary responsibility to make certain that the Contract Documents are in accordance with all applicable laws, rules and regulations, however, when the Contractor performs work knowing or having reason to know that the work in question is contrary to applicable laws, rules, and regulations, and fails to notify the Architect/Engineer, the Contractor shall pay all costs arising therefrom.

1.04 DEFINITIONS

- A. Definitions:
 - 1. Codes: Codes are statutory requirements, rules or regulations of governmental entities.
 - 2. Standards: Standards are requirements that have been established as accepted criteria, set general consent.

1.05 QUALITY ASSURANCE

- A. The Architect/Engineer has designed the project to applicable code requirements and has copies of said codes available for the Contractor's inspection.
- B. The Contractor shall:
 - 1. Ensure that copies of codes and standards referenced herein or specified in individual specifications sections are available to Contractor's personnel, agents, and Sub-Contractors.
 - 2. Ensure that Contractor's personnel, agents, and Sub-Contractors are familiar with the workmanship and requirements of applicable codes and standards.

1.06 REGULATORY REQUIREMENTS

- A. Source and Requirements: Verify amendments with local code officials.
 - 1. Illinois Community College Board code requirements:
 - a. ICC International Building Code, 2018 Edition.

- b. ICC International Mechanical Code, 2018 Edition.
- c. NFPA No. 101 - Life Safety Code, 2018 Edition.
- 2. State code requirements:
 - a. Illinois Environmental Protection Agency (IEPA):
 - 1) Air-Pollution Standards.
 - 2) Noise Pollution Standards.
 - 3) Water Pollution Standards.
 - 4) Public Water Supplies
 - 5) Solid Waste Standards.
 - b. Illinois State Fire Marshal (OSFM):
 - 1) Boiler & Pressure Vessel Safety Code (Illinois Administrative Code, Title 44, Chapter I, Part 120).
 - 2) Illinois Rules & Regulations for Fire Prevention & Safety (Illinois Administrative Code 100).

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 42 00 REFERENCES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Drawing symbols, abbreviations and acronyms.
- B. Definitions of terms used throughout the Contract Documents.
- C. Explanation of specification format and content.
- D. Requirements relating to referenced standards.
- E. Applicability of referenced standards.
- F. List of industry organizations and certain of their respective documents.

1.02 DRAWING SYMBOLS AND CONVENTIONS

- A. Abbreviations and graphic symbols are defined on the General Notes, Symbols & Abbreviations sheet of the drawings.
- B. Generally, symbols used on the mechanical and electrical drawings conform to those recommended by ASHRAE, though, where appropriate, these symbols are supplemented by more specific symbols as recommended by ASME, ASPE, or the IEEE.

1.03 DEFINITIONS

- A. Where the terms "indicated", "noted", "scheduled", "shown", or "specified" are used it is to help locate the reference; no limitation on location is intended except as specifically noted.
- B. Where the terms "directed", "requested", "authorized", "approved", are used as in "directed by the Architect/Engineer", no implied meaning shall be construed to extend the Architect/Engineer's responsibilities into the Contractor's purview of construction supervision.
- C. Where the term "approved" is used in conjunction with the Architect/Engineer's action on submittals, requests or applications it is limited to the duties of the Architect/Engineer as described in the Agreement, and the General and Supplemental Conditions of the Contract. Such use of the term "approval" shall not limit or release the Contractor from his responsibility to fulfill Contract requirements.
- D. Where the term "regulations" is used it means all applicable statutes, laws, ordinances, and orders issued by authorities having jurisdiction, as well as construction industry standards, rules, or conventions that address performance of the Work.
- E. Where the term "furnish" is used it means supply, deliver, and unload to the construction site ready for assembly and incorporation into the Work.
- F. Where the term "install" is used it is meant to describe operations at the job site to include unloading, assembling, placing, anchoring, finishing, protecting, cleaning and all other similar operations required to fully incorporate an item into the Work.
- G. Where the term "provide" is used it means "furnish and install" as defined above.

- H. The "Project Site" is the space available to the Contractor for performance of construction activities. The Project Site may be for the exclusive use of the Contractor and his activities or may be used in conjunction with others with others performing other construction or related activities on the Project. The Extent of the Project Site is indicated on the Drawings.

1.04 SPECIFICATION FORMAT AND CONTENT

- A. These Specifications are based on the Construction Specification Institute's 49 Division format and numbering system.
- B. Language used in the Specifications and other Contract Documents is an abbreviated type. Implied words and meanings will be appropriately interpreted.
- C. Requirements expressed in imperative and streamlined language are to be performed by the Contractor. At certain locations in the text, subjective language may be used to describe responsibilities that must be fulfilled indirectly by the Contractor or others.
1. Whenever a colon (:) is used within a sentence or phrase, it shall be construed to mean the words "shall be".
- D. Use of certain terms such as "carpentry" is not intended to imply that certain activities must be performed by accredited or unionized individuals of a corresponding generic name. The Specifications do, however, require that certain construction activities shall be performed by specialists who are recognized experts in the operations to be performed. Specialists shall be used for said activities, however the final responsibility for fulfilling the requirements of the Contract remains the Contractor's.

1.05 QUALITY ASSURANCE

- A. For products or workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard of date of issue specified in this section, except where a specific date is established by applicable code.
- C. Obtain copies of standards when required by the Contract Documents.
- D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from the Architect/Engineer before proceeding.
- F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Architect/Engineer shall be altered by the Contract Documents by mention or inference otherwise in any reference document.

1.06 APPLICABILITY OF INDUSTRY STANDARDS

- A. Construction industry standards shall have the same force and effect as if bound or copied directly in the Contract Documents, except where more stringent requirements are specified. All such applicable standards are made a part of the Contract Documents by reference.

1. Where compliance with two or more standards are referenced and conflicting requirements for quality or quantities occur, comply with the more stringent requirements. Refer questions regarding apparently conflicting standards to the Architect for a decision before proceeding.
2. The standard of quality or quantity levels specified, shown, or referenced shall be the minimum to be provided or performed. Refer questions regarding standards of minimum quality or quantity to the Architect before proceeding.

1.07 CONSTRUCTION INDUSTRY ORGANIZATIONS AND DOCUMENTS

- A. AA -- ALUMINUM ASSOCIATION, INC.
- B. AABC -- ASSOCIATED AIR BALANCE COUNCIL
- C. ACI -- AMERICAN CONCRETE INSTITUTE INTERNATIONAL
- D. AMCA -- AIR MOVEMENT AND CONTROL ASSOCIATION INTERNATIONAL, INC.
- E. ANSI -- AMERICAN NATIONAL STANDARDS INSTITUTE
- F. ASHRAE -- AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS, INC.
- G. ASME -- THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS
- H. ASTM -- AMERICAN SOCIETY FOR TESTING AND MATERIALS
- I. CPSC -- CONSUMER PRODUCTS SAFETY COMMISSION
- J. FM -- FACTORY MUTUAL RESEARCH CORPORATION
- K. ICC -- INTERNATIONAL CODE COUNCIL, INC.
- L. ISO -- INTERNATIONAL STANDARDS ORGANIZATION
- M. NAIMA -- NORTH AMERICAN INSULATION MANUFACTURERS ASSOCIATION
- N. NEBB -- NATIONAL ENVIRONMENTAL BALANCING BUREAU
- O. NFPA -- NATIONAL FIRE PROTECTION ASSOCIATION
- P. SMACNA -- SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION, INC.
- Q. UL -- UNDERWRITERS LABORATORIES INC.

1.08 UNITED STATES GOVERNMENT AND RELATED AGENCIES/DOCUMENTS

- A. CFR -- CODE OF FEDERAL REGULATIONS
- B. CPSC -- CONSUMER PRODUCTS SAFETY COMMISSION
- C. EPA -- ENVIRONMENTAL PROTECTION AGENCY
- D. FS -- FEDERAL SPECIFICATIONS AND STANDARDS (General Services Administration)
- E. GSA -- U.S. GENERAL SERVICES ADMINISTRATION

1.09 STATE GOVERNMENT AND RELATED AGENCIES/DOCUMENTS

- A. CDB -- ILLINOIS CAPITAL DEVELOPMENT BOARD
- B. IDOL -- ILLINOIS DEPARTMENT OF LABOR
- C. IDPH -- ILLINOIS DEPARTMENT OF PUBLIC HEALTH
- D. IEPA -- ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
- E. OSFM -- OFFICE OF THE ILLINOIS STATE FIRE MARSHAL.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

**SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Temporary telecommunications services.
- B. Temporary sanitary facilities.
- C. Temporary controls: Barriers, enclosures, and fencing.
- D. Security requirements.
- E. Vehicular access and parking.
- F. Waste removal facilities and services.

1.02 TEMPORARY UTILITIES

- A. Owner will provide the following:
 - 1. Electrical power and metering, consisting of connection to existing facilities.
 - 2. Water supply, consisting of connection to existing facilities.
- B. Existing facilities may be used.

1.03 TELECOMMUNICATIONS SERVICES

- A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.
- B. Telecommunications services shall include:
 - 1. One (1) mobile cellular telephone for each of Contractor's and any Subcontractor's field personnel.

1.04 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
 - 1. Use of existing facilities located at Project Site is not permitted.
- B. Maintain daily in clean and sanitary condition.

1.05 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide protection for plants and turf not designated for removal. Replace damaged plants and turf.
- C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.06 FENCING

- A. Provide 6 foot 6 foot high fence around construction material staging area; equip with vehicular and pedestrian and pedestrian gates with locks.

1.07 EXTERIOR ENCLOSURES

- A. Provide temporary insulated weather tight closure of exterior openings to allow for maintenance of existing interior ambient air temperatures, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks where applicable.

1.08 SECURITY

- A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.
- B. All on-site personnel of Contractor, Subcontractors and Suppliers must pass a background check, performed by the Owner or by an outside agency of the Owner's choosing.
 - 1. At least 7 days prior to a Contractor, Subcontractor or Supplier employee being present on the jobsite, provide Owner with employee's full name and date of birth, to allow the Owner to conduct a background check on the individual.
 - 2. Prior to allowing employee to come to the jobsite, await Owner's receipt of background check results and written confirmation from Owner that employee is permitted to be on site.

1.09 VEHICULAR ACCESS AND PARKING

- A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.
- B. Coordinate access and haul routes with governing authorities and Owner.
- C. Provide and maintain access to fire hydrants, free of obstructions.
- D. Provide means of removing mud from vehicle wheels before entering streets.
- E. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.10 WASTE REMOVAL

- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- B. Provide containers with lids. Remove trash from site periodically.
- C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.
- D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.11 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 57 13
TEMPORARY EROSION AND SEDIMENT CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Prevention of erosion due to construction activities.
- B. Prevention of sedimentation of waterways, open drainage ways, and storm and sanitary sewers due to construction activities.
- C. Restoration of areas eroded due to insufficient preventive measures.
- D. Compensation of Owner for fines levied by authorities having jurisdiction due to non-compliance by Contractor.

1.02 RELATED REQUIREMENTS

- A. Section 31 10 00 - Site Clearing: Limits on clearing; disposition of vegetative clearing debris.
- B. Section 31 22 00 - Grading: Temporary and permanent grade changes for erosion control.
- C. Section 32 15 00 - Aggregate Surfacing: Permanent aggregate maintenance strips.

1.03 REFERENCE STANDARDS

- A. ASTM D4355/D4355M - Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture, and Heat in a Xenon Arc-Type Apparatus; 2021.
- B. ASTM D4533/D4533M - Standard Test Method for Trapezoid Tearing Strength of Geotextiles; 2015 (Reapproved 2023).
- C. ASTM D4632/D4632M - Standard Test Method for Grab Breaking Load and Elongation of Geotextiles; 2015a (Reapproved 2023).
- D. ASTM D4751 - Standard Test Methods for Determining Apparent Opening Size of a Geotextile; 2021a.
- E. ASTM D4873/D4873M - Standard Guide for Identification, Storage, and Handling of Geosynthetic Rolls and Samples; 2017 (Reapproved 2021).
- F. FHWA FLP-94-005 - Best Management Practices for Erosion and Sediment Control; 1995.

1.04 PERFORMANCE REQUIREMENTS

- A. Best Management Practices Standard: FHWA FLP-94-005.
- B. Do not begin clearing, grading, or other work involving disturbance of ground surface cover until applicable permits have been obtained; furnish all documentation required to obtain applicable permits.
 - 1. Obtain and pay for permits and provide security required by authority having jurisdiction.
- C. Timing: Put preventive measures in place as soon as possible after disturbance of surface cover and before precipitation occurs.

- D. Storm Water Runoff: Control increased storm water runoff due to disturbance of surface cover due to construction activities for this project.
1. Prevent runoff into storm and sanitary sewer systems, including open drainage channels, in excess of actual capacity or amount allowed by authorities having jurisdiction, whichever is less.
 2. Anticipate runoff volume due to the most extreme short term and 24-hour rainfall events that might occur in 25 years.
- E. Erosion On Site: Minimize wind, water, and vehicular erosion of soil on project site due to construction activities for this project.
1. Control movement of sediment and soil from temporary stockpiles of soil.
 2. Prevent development of ruts due to equipment and vehicular traffic.
 3. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner.
- F. Erosion Off Site: Prevent erosion of soil and deposition of sediment on other properties caused by water leaving the project site due to construction activities for this project.
1. Prevent windblown soil from leaving the project site.
 2. Prevent tracking of mud onto public roads outside site.
 3. Prevent mud and sediment from flowing onto sidewalks and pavements.
 4. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner.
- G. Open Water: Prevent standing water that could become stagnant.
- H. Maintenance: Maintain temporary preventive measures until permanent measures have been established.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Erosion and Sedimentation Control Plan:
1. Submit not less than 30 days prior to anticipated start of clearing, grading, or other work involving disturbance of ground surface cover.
 2. Include:
 - a. Site plan identifying soils and vegetation, existing erosion problems, and areas vulnerable to erosion due to topography, soils, vegetation, or drainage.
 - b. Site plan showing grading; new improvements; temporary roads, traffic accesses, and other temporary construction; and proposed preventive measures.
 - c. Where extensive areas of soil will be disturbed, include storm water flow and volume calculations, soil loss predictions, and proposed preventive measures.
 - d. Schedule of temporary preventive measures, in relation to ground disturbing activities.
 - e. Other information required by law.
 - f. Format required by law is acceptable, provided any additional information specified is also included.
 3. Obtain the approval of the Plan by authorities having jurisdiction.
 4. Obtain the approval of the Plan by Owner.
- C. Certificate: Mill certificate for silt fence fabric attesting that fabric and factory seams comply with specified requirements, signed by legally authorized official of manufacturer; indicate actual

minimum average roll values; identify fabric by roll identification numbers.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Mulch: Use one of the following:
 1. Straw or hay.
 2. Erosion control matting or netting.
- B. Silt Fence Fabric: Polypropylene geotextile resistant to common soil chemicals, mildew, and insects; non-biodegradable; in longest lengths possible; fabric including seams with the following minimum average roll lengths:
 1. Average Opening Size: 30 U.S. Std. Sieve, maximum, when tested in accordance with ASTM D4751.
 2. Permittivity: 0.05 sec^{-1} , minimum, when tested in accordance with ASTM D4491/D4491M.
 3. Ultraviolet Resistance: Retaining at least 70 percent of tensile strength, when tested in accordance with ASTM D4355/D4355M after 500 hours exposure.
 4. Tensile Strength: 100 pounds-force, minimum, in cross-machine direction; 124 pounds-force, minimum, in machine direction; when tested in accordance with ASTM D4632/D4632M.
 5. Elongation: 15 to 30 percent, when tested in accordance with ASTM D4632/D4632M.
 6. Tear Strength: 55 pounds-force, minimum, when tested in accordance with ASTM D4533/D4533M.
 7. Color: Manufacturer's standard, with embedment and fastener lines preprinted.
- C. Silt Fence Posts: One of the following, minimum 5 feet long:
 1. Steel U- or T-section, with minimum mass of 1.33 pound per linear foot.
 2. Softwood, 4 by 4 inches in cross section.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine site and identify existing features that contribute to erosion resistance; maintain such existing features to greatest extent possible.

3.02 PREPARATION

- A. Schedule work so that soil surfaces are left exposed for the minimum amount of time.

3.03 SCOPE OF PREVENTIVE MEASURES

- A. In all cases, if permanent erosion resistant measures have been installed temporary preventive measures are not required.
- B. Linear Sediment Barriers: Made of silt fences.
 1. Provide linear sediment barriers:
 - a. Along downhill perimeter edge of disturbed areas, including soil stockpiles.
 - b. Along the top of the slope or top bank of drainage channels and swales that traverse disturbed areas.
 - c. Along the toe of cut slopes and fill slopes.
 - d. Perpendicular to flow across the bottom of existing and new drainage channels and swales that traverse disturbed areas or carry runoff from disturbed areas; space at maximum of 200

feet apart.

- e. Across the entrances to culverts that receive runoff from disturbed areas.
- 2. Space sediment barriers with the following maximum slope length upslope from barrier:
 - a. Slope of Less Than 2 Percent: 100 feet.
 - b. Slope Between 2 and 5 Percent: 75 feet.
 - c. Slope Between 5 and 10 Percent: 50 feet.
 - d. Slope Between 10 and 20 Percent: 25 feet.
 - e. Slope Over 20 Percent: 15 feet.
- C. Temporary Splash Pads: Stone aggregate over filter fabric; size to suit application; provide at downspout outlets and storm water outlets.
- D. Soil Stockpiles: Protect using one of the following measures:
 - 1. Cover with polyethylene film, secured by placing soil on outer edges.
 - 2. Cover with mulch at least 4 inches thickness of pine needles, sawdust, bark, wood chips, or shredded leaves, or 6 inches of straw or hay.
- E. Mulching: Use only for areas that may be subjected to erosion for less than 6 months.

3.04 INSTALLATION

- A. Silt Fences:
 - 1. Store and handle fabric in accordance with ASTM D4873/D4873M.
 - 2. Where slope gradient is less than 3:1 or barriers will be in place less than 6 months, use nominal 16 inch high barriers with minimum 36 inch long posts spaced at 6 feet maximum, with fabric embedded at least 4 inches in ground.
 - 3. Where slope gradient is steeper than 3:1 or barriers will be in place over 6 months, use nominal 28 inch high barriers, minimum 48 inch long posts spaced at 6 feet maximum, with fabric embedded at least 6 inches in ground.
 - 4. Where slope gradient is steeper than 3:1 and vertical height of slope between barriers is more than 20 feet, use nominal 32 inch high barriers with woven wire reinforcement and steel posts spaced at 4 feet maximum, with fabric embedded at least 6 inches in ground.
 - 5. Install with top of fabric at nominal height and embedment as specified.
 - 6. Embed bottom of fabric in a trench on the upslope side of fence, with 2 inches of fabric laid flat on bottom of trench facing upslope; backfill trench and compact.
 - 7. Do not splice fabric width; minimize splices in fabric length; splice at post only, overlapping at least 18 inches, with extra post.
 - 8. Fasten fabric to wood posts using one of the following:
 - a. Four nails per post with 3/4 inch diameter flat or button head, 1 inch long, and 14 gauge, 0.083 inch shank diameter.
 - b. Five staples per post with at least 17 gauge, 0.0453 inch wire, 3/4 inch crown width and 1/2 inch long legs.
 - 9. Fasten fabric to steel posts using wire, nylon cord, or integral pockets.
 - 10. Wherever runoff will flow around end of barrier or over the top, provide temporary splash pad or other outlet protection; at such outlets in the run of the barrier, make barrier not more than 12 inches high with post spacing not more than 4 feet.
- B. Mulching Over Large Areas:
 - 1. Erosion Control Matting: Comply with manufacturer's instructions.

C. Mulching Over Small and Medium Areas:

1. Dry Straw and Hay: Apply 4 to 6 inches depth.
2. Erosion Control Matting: Comply with manufacturer's instructions.

3.05 MAINTENANCE

A. Inspect preventive measures weekly, within 24 hours after the end of any storm that produces 0.5 inches or more rainfall at the project site, and daily during prolonged rainfall.

B. Repair deficiencies immediately.

C. Silt Fences:

1. Promptly replace fabric that deteriorates unless need for fence has passed.
2. Remove silt deposits that exceed one-third of the height of the fence.
3. Repair fences that are undercut by runoff or otherwise damaged, whether by runoff or other causes.

D. Place sediment in appropriate locations on site; do not remove from site.

3.06 CLEAN UP

A. Remove temporary measures after permanent measures have been installed, unless permitted to remain by Architect/Engineer.

B. Clean out temporary sediment control structures that are to remain as permanent measures.

C. Where removal of temporary measures would leave exposed soil, shape surface to an acceptable grade and finish to match adjacent ground surfaces.

END OF SECTION

SECTION 01 60 00 PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General product requirements.
- B. Transportation, handling, storage and protection.
- C. Product option requirements.
- D. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 SUBMITTALS

- A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

PART 2 PRODUCTS

2.01 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by the Contract Documents.
- B. Designed, manufactured, and tested in accordance with industry standards.

2.02 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.03 MAINTENANCE MATERIALS

- A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
- B. Deliver to Project site and place in location directed by Owner's representative; obtain Owner's signature on receipt for delivery prior to final payment. Submit signed receipts with Closeout Submittals.

PART 3 EXECUTION

3.01 TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.02 STORAGE AND PROTECTION

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- G. Comply with manufacturer's warranty conditions, if any.
- H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- I. Prevent contact with material that may cause corrosion, discoloration, or staining.
- J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SUBSTITUTION REQUEST FORM

PROJECT: WEITENDORF MAKE-UP AIR UNIT REPLACEMENT

SPECIFIED ITEM: _____

| | | | |
|-----------------------|------|-----------|--|
| Specification Section | Page | Paragraph | |
|-----------------------|------|-----------|--|

The undersigned requests consideration of the following:

PROPOSED SUBSTITUTION: _____

Attached data includes project description, specifications, drawings, photographs, performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents which the proposed substitution will require for its proper installation.

The undersigned certifies that the following paragraphs, unless modified by attachments, are correct:

1. The proposed substitution does not affect dimensions shown on drawings.
2. The undersigned will pay for changes to the building design, including engineering design, detailing, and construction costs caused by the requested substitution.
3. The proposed substitution will have no adverse effect on other trades, the construction schedule, or specified warranty requirements.
4. Maintenance and service parts will be locally available for the proposed substitution.

The undersigned further states that the function, appearance, and quality of the proposed substitution are equivalent or superior to the specified item.

Printed Name

Signature Date

Firm

Telephone

Email

Attachments (list):

For Use By The Architect/Engineer:

Accepted Accepted As Noted

Not Accepted Received Too Late

By: _____

Date: _____

Remarks:

**SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Examination, preparation, and general installation procedures.
- B. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances.
- C. Cutting and patching.
- D. Cleaning and protection.
- E. Starting of systems and equipment.
- F. Demonstration and instruction of Owner personnel.
- G. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.
- H. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

- A. Section 01 78 00 - Closeout Submittals: Project record documents, operation and maintenance data, warranties.
- B. Section 01 79 00 - Demonstration and Training: Demonstration of products and systems to be commissioned and where indicated in specific specification sections.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
 - 1. Structural integrity of any element of Project.
 - 2. Integrity of weather exposed or moisture resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of Owner or separate Contractor.

1.04 PROJECT CONDITIONS

- A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- B. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
 - 1. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.
- C. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

- D. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.
- E. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.
- F. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.05 COORDINATION

- A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Notify affected utility companies and comply with their requirements.
- C. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. Coordinate completion and clean-up of work of separate sections.
- E. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS - NOT USED

2.01 PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 GENERAL INSTALLATION REQUIREMENTS

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.04 ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 - 1. Verify that construction and utility arrangements are as indicated.
 - 2. Report discrepancies to Architect/Engineer before disturbing existing installation.
 - 3. Beginning of alterations work constitutes acceptance of existing conditions.
- B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
- C. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove items indicated on Drawings.
 - 2. Relocate items indicated on Drawings.
 - 3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
 - 4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.
- D. Services (Including but not limited to HVAC and Electrical): Remove, relocate, and extend existing systems to accommodate new construction.
 - 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.

2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
 3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
 - b. Provide temporary connections as required to maintain existing systems in service.
 4. Verify that abandoned services serve only abandoned facilities.
 5. Remove abandoned pipe, ducts, conduits, and equipment; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.
- E. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 3. Repair adjacent construction and finishes damaged during removal work.
- F. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
- G. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.
- H. Refinish existing surfaces as indicated:
1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
 2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.
- I. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.
- J. Do not begin new construction in alterations areas before demolition is complete.
- K. Comply with all other applicable requirements of this section.

3.05 CUTTING AND PATCHING

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. See Alterations article above for additional requirements.
- C. Perform whatever cutting and patching is necessary to:
 1. Complete the work.
 2. Fit products together to integrate with other work.
 3. Provide openings for penetration of mechanical, electrical, and other services.
 4. Match work that has been cut to adjacent work.
 5. Repair areas adjacent to cuts to required condition.
 6. Repair new work damaged by subsequent work.
 7. Remove samples of installed work for testing when requested.

- 8. Remove and replace defective and non-conforming work.
- D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- E. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- G. Restore work with new products in accordance with requirements of Contract Documents.
- H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material , to full thickness of the penetrated element.
- J. Patching:
 - 1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
 - 2. Match color, texture, and appearance.
 - 3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.06 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- G. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.07 SYSTEM STARTUP

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.
- C. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

- D. Verify that wiring and support components for equipment are complete and tested.
- E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.
- F. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.08 DEMONSTRATION AND INSTRUCTION

- A. See Section 01 79 00 - Demonstration and Training.

3.09 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.10 FINAL CLEANING

- A. Execute final cleaning prior to final project assessment.
 - 1. Clean areas to be occupied by Owner prior to final completion before Owner occupancy.
- B. Use cleaning materials that are nonhazardous.
- C. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- D. Clean filters of operating equipment.
- E. Clean site; sweep paved areas, rake clean landscaped surfaces.
- F. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.11 CLOSEOUT PROCEDURES

- A. See Section 01 77 00 for additional requirements.
- B. Make submittals that are required by governing or other authorities.
- C. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.
- D. Notify Architect/Engineer when work is considered ready for Architect/Engineer's Substantial Completion inspection.
- E. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect/Engineer's Substantial Completion inspection.
- F. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect/Engineer's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect/Engineer.
- G. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

- H. Notify Architect/Engineer when work is considered finally complete and ready for Architect/Engineer's Substantial Completion final inspection.
- I. Complete items of work determined by Architect/Engineer listed in executed Certificate of Substantial Completion.

3.12 MAINTENANCE

- A. Provide service and maintenance of components indicated in specification sections.
- B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.
- C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.
- D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
- E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

**SECTION 01 77 00
CLOSEOUT PROCEDURES**

PART 1 GENERAL

1.01 SECTION INCLUDES:

- A. Substantial Completion Procedures.
- B. Final Completion Procedures.

1.02 RELATED REQUIREMENTS:

- A. Section 01 78 00 - Closeout Submittals.

1.03 SUBSTANTIAL COMPLETION PROCEDURES

- A. Substantial Completion Procedures:
 1. When the Work or a portion of the Work is considered to be substantially complete, the Contractor inspects the project and prepares a comprehensive list of outstanding items to be completed or corrected, Initial Punch List.
 2. Contractor submits notice of Substantial Completion.
 3. Contractor completes items on the Initial Punch List.
 4. Architect/Engineer inspects the project to verify substantial completion and prepares a Final Punch List.
 5. Architect/Engineer prepares Certificate of Substantial Completion, acceptance is required by Owner and Contractor.

1.04 FINAL COMPLETION PROCEDURES

- A. Final Completion Procedures:
 1. When items on Initial and Final Punch Lists are complete, the Contractor submits notice of final completion and final application for payment.
 2. Contractor submits Final Closeout Submittals as specified in Section 01 78 00.
 3. Architect inspects project and verifies the Work is acceptable and conforms with the Contract Documents.
 4. Architect processes final application for payment and closeout submittals.

1.05 CORRECTION PERIOD

- A. Correction Period commences on the date of Substantial Completion and expires one year from that date.
- B. Owner: document non-conforming or defective work over course of Correction Period. Notify Contractor in writing of nonconforming or defective work. Copy Architect/Engineer.
 1. Life safety issues requiring immediate corrective work: Contact Contractor for action.

PART 2 PRODUCTS - NOT USED.

PART 3 EXECUTION - NOT USED.

END OF SECTION

**SECTION 01 78 00
CLOSEOUT SUBMITTALS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

- A. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- B. Section 01 70 00 - Execution and Closeout Requirements: Contract closeout procedures.
- C. Individual Product Sections: Specific requirements for operation and maintenance data.
- D. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

- A. Project Record Documents: Submit documents to Architect/Engineer with claim for final Application for Payment.
- B. Operation and Maintenance Data:
 - 1. Submit preliminary draft or proposed formats and outlines of contents before start of Work. Architect/Engineer will review draft and return with comments.
 - 2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
 - 3. Submit completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect/Engineer comments. Revise content as required prior to final submission.
 - 4. Submit revised final documents in final in PDF file format on USB flash drive form within 10 days after final inspection.
- C. Warranties and Bonds:
 - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
 - 2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
 - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED**PART 3 EXECUTION****3.01 PROJECT RECORD DOCUMENTS**

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed shop drawings, product data, and samples.
 - 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and modifications.
- F. Record Drawings : Legibly mark each item to record actual construction including:
 - 1. Field changes of dimension and detail.
 - 2. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA

- A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. For Each Product, Applied Material, and Finish:
 - 1. Product data, with catalog number, size, composition, and color and texture designations.
 - 2. Information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

- C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- D. Additional information as specified in individual product specification sections.
- E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

- A. For Each Item of Equipment and Each System:
 1. Description of unit or system, and component parts.
 2. Identify function, normal operating characteristics, and limiting conditions.
 3. Include performance curves, with engineering data and tests.
 4. Complete nomenclature and model number of replaceable parts.
- B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.
- C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
- D. Include color coded wiring diagrams as installed.
- E. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- F. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- G. Provide servicing and lubrication schedule, and list of lubricants required.
- H. Include manufacturer's printed operation and maintenance instructions.
- I. Include sequence of operation by controls manufacturer.
- J. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- K. Provide control diagrams by controls manufacturer as installed.
- L. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- M. Include test and balancing reports.
- N. Additional Requirements: As specified in individual product specification sections.

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

- A. Assemble operation and maintenance data into PDF file "manual" for Owner's personnel use, with data arranged in the same sequence as, and bookmarked by, the specification sections.
 - 1. Media: USB flash drive of capacity sufficient to store entire PDF file, fragmented.
 - 2. Attach a tag or label flash drive with Project name, date, and the title "O&M Manual".
- B. Where systems involve more than one specification section, provide separate bookmark for each system.
- C. Prepare instructions and data by personnel experienced in maintenance and operation of described products.
- D. Prepare data in the form of an instructional manual.
- E. Cover Page: Populate the first page of the PDF file with: printed title "OPERATION AND MAINTENANCE MANUAL"; identify title of Project; identify subject matter of contents.
- F. Project Directory: Beginning on the second page of the PDF file; provide Title and address of Project; names, addresses, and telephone numbers of Architect/Engineer, Consultants, Contractor and subcontractors, with names of responsible parties.
- G. Table of Contents: List every item identified by a bookmark, using the same identification as in the title of the bookmark.
- H. Bookmarks: Bookmark each separate product and system; identify the contents in the title of the bookmark; on the bookmarked page provide a description of product and major component parts of equipment.
- I. Content: Manufacturer's printed data, legibly scanned, in color where applicable, at 300 dpi resolution.
- J. Drawings: Legibly scanned, in color where applicable, at 300 dpi resolution; PDF file page size to match native sheet size of original drawing.
- K. Arrangement of Contents: Organize each volume in parts as follows:
 - 1. Project Directory.
 - 2. Table of Contents, of all volumes, and of this volume.
 - 3. Operation and Maintenance Data: Arranged by system, then by product category.
 - a. Source data.
 - b. Product data, shop drawings, and other submittals.
 - c. Operation and maintenance data.
 - d. Field quality control data.
 - e. Warranties and bonds.

3.06 WARRANTIES AND BONDS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.

- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.
- E. Include color, 300 dpi resolution scans of each in Operation and Maintenance Manual PDF file, bookmarked indexed separately in Table of Contents.
- F. Manual: Bind original copies of warranties and bonds in commercial quality 8-1/2 by 11 inch three D side ring binders with durable plastic covers.
- G. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.
- H. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.
- I. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

END OF SECTION

**SECTION 01 79 00
DEMONSTRATION AND TRAINING**

PART 1 GENERAL

1.01 SUMMARY

- A. Demonstration of products and systems where indicated in specific specification sections.
- B. Training of Owner personnel in operation and maintenance is required for:
 - 1. All software-operated systems.
 - 2. HVAC systems and equipment.
 - 3. Electrical systems and equipment.

1.02 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Training Plan: Owner will designate personnel to be trained; tailor training to needs and skill-level of attendees.
 - 1. Submit to Architect/Engineer for transmittal to Owner.
 - 2. Submit not less than four weeks prior to start of training.
 - 3. Revise and resubmit until acceptable.
 - 4. Provide an overall schedule showing all training sessions.
 - 5. Include at least the following for each training session:
 - a. Identification, date, time, and duration.
 - b. Description of products and/or systems to be covered.
 - c. Name of firm and person conducting training; include qualifications.
 - d. Intended audience, such as job description.
 - e. Objectives of training and suggested methods of ensuring adequate training.
 - f. Methods to be used, such as classroom lecture, live demonstrations, hands-on, etc.
 - g. Media to be used, such as slides, hand-outs, etc.
 - h. Training equipment required, such as projector, projection screen, etc., to be provided by Contractor.
- C. Training Manuals: Provide training manual for each attendee; allow for minimum of two attendees per training session.
 - 1. Include applicable portion of O&M manuals.
 - 2. Include copies of all hand-outs, slides, overheads, video presentations, etc., that are not included in O&M manuals.
 - 3. Provide one extra copy of each training manual to be included with operation and maintenance data.
- D. Training Reports:
 - 1. Identification of each training session, date, time, and duration.
 - 2. Sign-in sheet showing names and job titles of attendees.
 - 3. List of attendee questions and written answers given, including copies of and references to supporting documentation required for clarification; include answers to questions that could not be answered in original training session.

- E. Video Recordings: Submit digital video recording of each demonstration and training session for Owner's subsequent use.
 1. Format: USB Flash Drive.
 2. Label each disc and container with session identification and date.

1.03 QUALITY ASSURANCE

- A. Instructor Qualifications: Familiar with design, operation, maintenance and troubleshooting of the relevant products and systems.
 1. Provide as instructors the most qualified trainer of those contractors and/or installers who actually supplied and installed the systems and equipment.
 2. Where a single person is not familiar with all aspects, provide specialists with necessary qualifications.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 DEMONSTRATION - GENERAL

- A. Demonstrations conducted during system start-up do not qualify as demonstrations for the purposes of this section, unless approved in advance by Owner.
- B. Demonstration may be combined with Owner personnel training if applicable.
- C. Operating Equipment and Systems: Demonstrate operation in all modes, including start-up, shut-down, seasonal changeover, emergency conditions, and troubleshooting, and maintenance procedures, including scheduled and preventive maintenance.
 1. Perform demonstrations not less than two weeks prior to Substantial Completion.
 2. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- D. Non-Operating Products: Demonstrate cleaning, scheduled and preventive maintenance, and repair procedures.
 1. Perform demonstrations not less than two weeks prior to Substantial Completion.

3.02 TRAINING - GENERAL

- A. Conduct training on-site unless otherwise indicated.
- B. Owner will provide classroom and seating at no cost to Contractor.
- C. Provide training in minimum two hour segments.
- D. Training schedule will be subject to availability of Owner's personnel to be trained; re-schedule training sessions as required by Owner; once schedule has been approved by Owner failure to conduct sessions according to schedule will be cause for Owner to charge Contractor for personnel "show-up" time.
- E. Review of Facility Policy on Operation and Maintenance Data: During training discuss:
 1. The location of the O&M manuals and procedures for use and preservation; backup copies.
 2. Typical contents and organization of all manuals, including explanatory information, system narratives, and product specific information.

3. Typical uses of the O&M manuals.
- F. Product- and System-Specific Training:
1. Review the applicable O&M manuals.
 2. For systems, provide an overview of system operation, design parameters and constraints, and operational strategies.
 3. Review instructions for proper operation in all modes, including start-up, shut-down, seasonal changeover and emergency procedures, and for maintenance, including preventative maintenance.
 4. Provide hands-on training on all operational modes possible and preventive maintenance.
 5. Emphasize safe and proper operating requirements; discuss relevant health and safety issues and emergency procedures.
 6. Discuss common troubleshooting problems and solutions.
 7. Discuss any peculiarities of equipment installation or operation.
 8. Discuss warranties and guarantees, including procedures necessary to avoid voiding coverage.
 9. Review recommended tools and spare parts inventory suggestions of manufacturers.
 10. Review spare parts and tools required to be furnished by Contractor.
 11. Review spare parts suppliers and sources and procurement procedures.
- G. Be prepared to answer questions raised by training attendees; if unable to answer during training session, provide written response within three days.

END OF SECTION

SECTION 02 41 00 DEMOLITION

<<<< UPDATE NOTES

PART 1 GENERAL

2.01 SECTION INCLUDES

- A. Selective demolition of building and siteelements for alteration purposes.

2.02 RELATED REQUIREMENTS

- A. Section 01 57 13 - Temporary Erosion and Sediment Control.
- B. Section 01 70 00 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.
- C. Section 01 74 19 - Construction Waste Management and Disposal: Limitations on disposal of removed materials; requirements for recycling.

2.03 REFERENCE STANDARDS

- A. 29 CFR 1926 - Safety and Health Regulations for Construction; Current Edition.
- B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2022, with Errata (2021).

2.04 DEFINITIONS

- A. Where the term "demolish" is used it shall be construed to mean remove and legally dispose of off site.
- B. Where the term "refurbish" is used it shall be construed to mean refinish, repair and otherwise restore to like-new condition.
- C. Where the term "relocate" is used it shall be construed to mean disconnect from existing utilities, move to new location and reinstall and reconnect to utilities.
- D. Where the terms "temporarily remove" or "salvage" are used they shall be construed to mean carefully remove so as to prevent damage.
 - 1. If the item is to be saved for reinstallation or relocation as part of the Work, these terms shall also be construed to mean clean, adjust, lubricate and otherwise restore to best possible condition without repair or refinishing. Otherwise, they shall mean clean item surfaces and turn over to the Owner for storage and possible future use.
- E. Where the phrase "salvage in place" is used it shall be construed to mean protect in place so as to prevent damage while adjacent elements are demolished, restore to best possible condition without repair or refinishing, and modify as necessary to properly incorporate and integrate with new Work.

PART 2 PRODUCTS -- NOT USED**PART 3 EXECUTION****4.01 DEMOLITION**

A. Extent of demolition work is indicated on the Drawings.

4.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with requirements in Section 01 70 00.

B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.

1. Obtain required permits.
2. Comply with applicable requirements of NFPA 241.
3. Use of explosives is not permitted.
4. Take precautions to prevent catastrophic or uncontrolled collapse of elements to be removed; do not allow worker or public access within range of potential collapse of unstable elements.
5. Provide, erect, and maintain temporary barriers and security devices.
6. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
7. Conduct operations to minimize effects on and interference with adjacent elements and occupants.
8. Do not close or obstruct roadways or sidewalks without permits from authority having jurisdiction.
9. Conduct operations to minimize obstruction of public and private entrances and exits. Do not obstruct required exits at any time. Protect persons using entrances and exits from removal operations.

C. Do not begin removal until receipt of notification to proceed from Owner.

D. Do not begin removal until built elements to be salvaged or relocated have been removed.

E. Protect existing elements to remain in place and not removed.

1. Provide bracing and shoring.
2. Prevent movement or settlement of adjacent elements.
3. Stop work immediately if adjacent elements appear to be in danger.

F. Minimize production of dust due to demolition operations. Do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

G. Hazardous Materials:

1. If hazardous materials are discovered during removal operations, stop work and notify Architect/Engineer and Owner; hazardous materials include regulated asbestos containing materials, lead, PCBs, and mercury.

H. Perform demolition in a manner that maximizes salvage and recycling of materials.

1. Dismantle existing construction and separate materials.
2. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.

4.03 SELECTIVE DEMOLITION FOR ALTERATIONS

- A. Existing construction and utilities indicated on drawings are based on casual field observation and existing record documents only.
 - 1. Verify construction and utility arrangements are as indicated.
 - 2. Report discrepancies to Architect/Engineer before disturbing existing installation.
 - 3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
- B. Separate areas in which demolition is being conducted from areas that remain occupied.
- C. Maintain weatherproof exterior building enclosure, except for interruptions required for replacement or modifications; prevent water and humidity damage.
- D. Remove existing work as indicated and required to accomplish new work.
 - 1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction indicated.
 - 2. Remove items indicated on drawings.
- E. Services (Including but not limited to HVAC and Electrical): Remove existing systems and equipment as indicated.
 - 1. Maintain existing active systems to remain in operation, and maintain access to equipment and operational components.
 - 2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - 3. Verify that abandoned services serve only abandoned facilities before removal.
 - 4. Remove abandoned pipe, ducts, conduits, and equipment; remove back to source of supply where possible, otherwise cap stub and tag with identification.
- F. Protect existing work to remain.
 - 1. Prevent movement of structure. Provide shoring and bracing as required.
 - 2. Perform cutting to accomplish removal work neatly and as specified for cutting new work.
 - 3. Repair adjacent construction and finishes damaged during removal work.
 - 4. Patch to match new work.

4.04 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Remove materials not to be reused on site.
- C. Leave site in clean condition, ready for subsequent work.
- D. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

**SECTION 03 30 00
CAST-IN-PLACE CONCRETE**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Concrete formwork.
- B. Concrete Reinforcing.
- C. Floors and slabs on grade.
- D. Miscellaneous concrete elements, including equipment pads.
- E. Concrete curing.

1.02 RELATED REQUIREMENTS

- A. Section 01 40 00 - Quality Requirements: Concrete reinforcement inspection requirements.

1.03 REFERENCE STANDARDS

- A. ACI PRC-347 - Guide to Formwork for Concrete; 2014 (Reapproved 2021).
- B. ACI SPEC-117 - Specification for Tolerances for Concrete Construction and Materials; 2010 (Reapproved 2015).
- C. ACI PRC-211.1 - Selecting Proportions for Normal-Density and High Density-Concrete - Guide; 2022.
- D. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2022.
- E. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2022.
- F. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2023.
- G. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2024.
- H. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2019, with Editorial Revision (2022).
- I. ASTM C618 - Standard Specification for Coal Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2023, with Editorial Revision.
- J. ASTM C989/C989M - Standard Specification for Slag Cement for Use in Concrete and Mortars; 2024.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements.
- B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.

1. For curing compounds, provide data on method of removal in the event of incompatibility with floor covering adhesives.
 2. Anchoring epoxy and expansion anchors.
- C. Mix Designs: Submit 15 days prior to start of work.
1. Submit for each type of concrete specified.
 2. Include back-up test data.
 3. Indicate proposed mix design complies with requirements of ACI SPEC-301, Section 4 - Concrete Mixtures.
 4. Indicate proposed mix design complies with requirements of ACI CODE-318, Chapter 5 - Concrete Quality, Mixing and Placing.
- D. Test Reports: Submit report for each test or series of tests specified.

1.05 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI SPEC-301 and ACI CODE-318.
- B. Follow recommendations of ACI PRC-305 when concreting during hot weather.
- C. Follow recommendations of ACI PRC-306 when concreting during cold weather.

1.06 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.

PART 2 PRODUCTS

2.01 FORMWORK

- A. Formwork Design and Construction: Comply with guidelines of ACI PRC-347 to provide formwork that will produce concrete complying with tolerances of ACI SPEC-117.
- B. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
 1. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.
 2. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches of concrete surface.

2.02 REINFORCEMENT MATERIALS

- A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).
 1. Type: Deformed billet-steel bars.
- B. Steel Welded Wire Reinforcement (WWR): Plain type, ASTM A1064/A1064M.
- C. Reinforcement Accessories:
 1. Tie Wire: Annealed, minimum 16 gauge, 0.0508 inch.
 2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.

2.03 CONCRETE MATERIALS

- A. Cement: ASTM C150/C150M, Type I - Normal Portland type.
 1. Acquire cement for entire project from same source.

- B. Fine and Coarse Aggregates: ASTM C33/C33M.
 1. Acquire aggregates for entire project from same source.
- C. Fly Ash: ASTM C618, Class C.
- D. Ground Granulated Blast Furnace Slag: ASTM C989/C989M.
- E. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.

2.04 ADMIXTURES

- A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
- B. High Range Water Reducing and Retarding Admixture: ASTM C494/C494M Type G.
- C. High Range Water Reducing Admixture: ASTM C494/C494M Type F.
- D. Water Reducing and Accelerating Admixture: ASTM C494/C494M Type E.
- E. Water Reducing and Retarding Admixture: ASTM C494/C494M Type D.
- F. Accelerating Admixture: ASTM C494/C494M Type C.
- G. Retarding Admixture: ASTM C494/C494M Type B.
- H. Water Reducing Admixture: ASTM C494/C494M Type A.

2.05 ACCESSORY MATERIALS

- A. Anchoring Epoxy: Refer to drawings. Acceptable manufacturer's include...
 1. Hilti: HIT-RE500-SD injection anchoring system.
 2. Simpson Strong-Tie: SET-XP injection anchoring adhesive system.
 3. Powers Fasteners: PE 1000+ injection adhesive anchoring system.
- B. Expansion Anchors: Refer to drawings. Acceptable manufacturer's include...
 1. Hilti: Kwik Bolt 3 expansion anchor.
 2. Simpson Strong-Tie: Strong-Bolt 2 wedge anchor.

2.06 CURING MATERIALS

- A. Curing Compound, Naturally Dissipating: Clear, water-based, liquid membrane-forming compound; complying with ASTM C309.
- B. Water: Potable, not detrimental to concrete.

2.07 CONCRETE MIX DESIGN

- A. Proportioning Normal Weight Concrete: Comply with ACI PRC-211.1 recommendations.
- B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI SPEC-301.
 1. For trial mixtures method, employ independent testing agency acceptable to Architect/Engineer for preparing and reporting proposed mix designs.
- C. Admixtures: Add acceptable admixtures as recommended in ACI PRC-211.1 and at rates recommended by manufacturer. Submit to Architect for review and approval.

D. Normal Weight Concrete: Type "D".

1. Compressive Strength, when tested in accordance with ASTM C 39/C 39M at 28 days: 4,500 psi.
2. Fly Ash Content: Maximum 15 percent of cementitious materials by weight.
3. Water-Cement Ratio: Maximum 44 percent by weight.
4. Total Air Content: 6 percent, determined in accordance with ASTM C 173/C 173M.
5. Maximum Slump: 4 inches.
6. Maximum Aggregate Size: 3/4 inch.

2.08 MIXING

- A. Transit Mixers: Comply with ASTM C94/C94M.
- B. Adding Water: If concrete arrives on-site with slump less than suitable for placement, do not add water that exceeds the maximum water-cement ratio or exceeds the maximum permissible slump.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

- A. Verify that forms are clean and free of rust before applying release agent.
- B. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.
- C. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and secure in place using approved epoxy.
- D. Set steel pipe bollards plumb.

3.03 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

- A. Comply with requirements of ACI SPEC-301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.
- B. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.

3.04 PLACING CONCRETE

- A. Place concrete in accordance with ACI PRC-304.
- B. Notify Architect/Engineer not less than 24 hours prior to commencement of placement operations.
- C. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- D. Ensure reinforcement and embedded parts will not be disturbed during concrete placement.

- E. Place concrete continuously without construction (cold) joints wherever possible; where construction joints are necessary, before next placement prepare joint surface by removing laitance and exposing the sand and sound surface mortar, by sandblasting or high-pressure water jetting.

3.05 FLOOR FLATNESS AND LEVELNESS TOLERANCES

- A. Maximum Variation of Surface Flatness:
 - 1. Exposed Concrete Floors: 1/4 inch in 10 feet.
 - 2. Under Seamless Resilient Flooring: 1/4 inch in 10 feet.
 - 3. Under Carpeting: 1/4 inch in 10 feet.
- B. Correct the slab surface if tolerances are less than specified.
- C. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.06 CONCRETE FINISHING

- A. Repair surface defects, including tie holes, immediately after removing formwork.
- B. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch or more in height. Provide finish as follows:
 - 1. Smooth Rubbed Finish: Wet concrete and rub with carborundum brick or other abrasive, not more than 24 hours after form removal.
- C. Concrete Slabs: Finish to requirements of ACI PRC-302.1 and as follows:
 - 1. Provide light broom finish on exterior flat work.
 - 2. Provide 3/4" radiused edge on exposed slab edges, unless otherwise noted.

3.07 CURING AND PROTECTION

- A. Comply with requirements of ACI PRC-308. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

3.08 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00 - Quality Requirements.
- B. Provide free access to concrete operations at project site and cooperate with appointed firm.

3.09 DEFECTIVE CONCRETE

- A. Defective Concrete: Concrete not complying with required lines, details, dimensions, tolerances or specified requirements.
- B. Repair or replacement of defective concrete will be determined by the Architect/Engineer. The cost of additional testing shall be borne by Contractor when defective concrete is identified.
- C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect/Engineer for each individual area.

3.10 PROTECTION

A. Do not permit traffic over unprotected concrete floor surface until fully cured.

3.11 SCHEDULE - CONCRETE TYPES AND FINISHES

| Location | Mix Type | Concrete Finish |
|-------------------------|-----------------|---------------------------------------|
| Equipment Pad: Exterior | D | Sides: Smooth formed Top: Non-slip |

END OF SECTION

**SECTION 07 72 00
ROOF ACCESSORIES**

PART 1 GENERAL**1.01 SECTION INCLUDES**

- A. Snow guards.

1.02 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used.
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
 - 4. Maintenance requirements.
- C. Shop Drawings: Submit detailed layout developed for this project and provide dimensioned location and number for each type of roof accessory.

1.03 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store products under cover and elevated above grade.

PART 2 PRODUCTS**2.01 SNOW GUARDS**

- A. Unit Snow Guards: Individual projecting metal shapes, set between minor ribs of existing roof panels, and mechanically fastened to roof panels.
 - 1. Projecting Metal Shapes: Aluminum, manufacturer's standard design.
 - 2. Finish: Manufacturer's available painted or powder coating; custom color to match existing roof.
 - 3. Placement: As indicated on drawings.
 - 4. Products:
 - a. Alpine SnowGuards; PD30 Half Round Pad-Style Snow Guard:
www.alpinesnowguards.com.
 - b. Rocky Mountain Snow Guards, Inc.; Rocky Guard RG16 Snow Guard:
www.rockymountainsnowguards.com.
 - c. Snostop, Snow Catcher Snow Guards: www.snostop.com.
 - d. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 EXECUTION**3.01 EXAMINATION**

- A. Do not begin installation until substrates have been properly prepared. Commencement if installation implies acceptance of substrate condition.

3.02 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using methods recommended by manufacturer for achieving acceptable results for applicable substrate under project conditions.

3.03 INSTALLATION

- A. Install in accordance with manufacturer's instructions, using gasketed mechanical fasteners in manner that maintains roofing system weather-tight integrity.

3.04 CLEANING

- A. Clean installed work to like-new condition.

3.05 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

SECTION 07 92 00 JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Nonsag gunnable joint sealants.
- B. Joint backings and accessories.

1.02 REFERENCE STANDARDS

- A. ASTM C794 - Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants; 2018 (Reapproved 2022).
- B. ASTM C1087 - Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems; 2023.
- C. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016 (Reapproved 2023).
- D. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants; 2023.
- E. SCAQMD 1168 - Adhesive and Sealant Applications; 1989, with Amendment (2022).
- F. SWRI (VAL) - SWR Institute Validated Products Directory; Current Edition.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Submit manufacturer's technical datasheets for each product to be used; include the following:
 - 1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
 - 2. List of backing materials approved for use with the specific product.
 - 3. Backing material recommended by sealant manufacturer.
 - 4. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
 - 5. Substrates the product should not be used on.
 - 6. Substrates for which use of primer is required.
 - 7. Substrates for which laboratory adhesion and/or compatibility testing is required.
 - 8. Installation instructions, including precautions, limitations, and recommended backing materials and tools.
 - 9. Sample product warranty.
 - 10. Certification by manufacturer indicating that product complies with specification requirements.
 - 11. SWRI Validation: Provide currently available sealant product validations as listed by SWRI (VAL) for specified sealants.
- C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.
- D. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.

- E. Samples for Verification: Where custom sealant color is specified, obtain directions from Architect/Engineer and submit at least two physical samples for verification of color of each required sealant.
- F. Preconstruction Laboratory Test Reports: Submit at least four weeks prior to start of installation.
- G. Installer's qualification statement.
- H. Executed warranty.

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum ten years experience.
- B. Installer Qualifications: Company specializing in performing the work of this section and with at least five years of documented experience.
- C. Preconstruction Laboratory Testing: Arrange for sealant manufacturer(s) to test each combination of sealant, substrate, backing, and accessories.
 1. Adhesion Testing: In accordance with ASTM C794.
 2. Compatibility Testing: In accordance with ASTM C1087.
 3. Allow sufficient time for testing to avoid delaying the work.
 4. Deliver sufficient samples to manufacturer for testing.
 5. Report manufacturer's recommended corrective measures, if any, including primers or techniques not indicated in product data submittals.

1.05 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.
- B. Manufacturer Warranty: Provide 2-year manufacturer warranty for installed sealants and accessories that fail to achieve a watertight seal, exhibit loss of adhesion or cohesion, or do not cure. Complete forms in Owner's name and register with manufacturer.
- C. Extended Correction Period: Correct defective work within 2-year period commencing on Date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Nonsag Sealants:
 1. Dow Corning Corporation: www.dowcorning.com/construction.
 2. Hilti, Inc: www.us.hilti.com.
 3. Master Builders Solutions by BASF: www.master-builders-solutions.basf.us/en-us.
 4. Momentive Performance Materials, Inc (formerly GE Silicones): www.momentive.com.
 5. Pecora Corporation: www.pecora.com.
 6. Sika Corporation: www.usa-sika.com.
 7. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com.
 8. W.R. Meadows, Inc: www.wrmeadows.com.

2.02 JOINT SEALANT APPLICATIONS

- A. Scope:
1. Exterior Joints:
 - a. Seal open joints except open joints indicated on drawings as not sealed.
 2. Interior Joints:
 - a. Seal open joints except specific open joints indicated on drawings as not sealed.
 3. Do Not Seal:
 - a. Intentional weep holes in masonry.
 - b. Weep holes in curtain wall, storefront and window systems.
 - c. Joints indicated to be covered with expansion joint cover assemblies.
 - d. Joints where sealant is specified to be furnished and installed by manufacturer of product to be sealed.
 - e. Joints where sealant installation is specified in other sections.
 - f. Joints between suspended ceilings and walls.
- B. Exterior Joints: Use non-sag non-staining silicone sealant, unless otherwise indicated.
1. Lap Joints in Sheet Metal Fabrications: Butyl rubber, non-curing.
- C. Interior Joints: Use non-sag acrylic-urethane sealant, unless otherwise indicated.
1. Joints in Wet Areas: Non-sag polyurethane sealant for continuous liquid immersion.
- D. Interior Wet Areas: Animal barns; fixtures in wet areas include duct penetrations and flashings.

2.03 JOINT SEALANTS - GENERAL

- A. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.

2.04 NONSAG JOINT SEALANTS

- A. Non-Staining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
1. Color: To be selected by Architect/Engineer from manufacturer's standard range.
 2. Cure Type: Single-component, neutral moisture curing.
 3. Products:
 - a. Dow Chemical Company; DOWSIL 790 Silicone Building Sealant: consumer.dow.com/en-us/industry/ind-building-construction.html.
 - b. Sika Corporation; Sikasil WS-290: www.usa-sika.com.
 - c. Tremco Commercial Sealants & Waterproofing; Spectrem 1: www.tremcosealants.com.
 - d. Tremco Commercial Sealants & Waterproofing; Tremsil 200: www.tremcosealants.com.
 - e. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Polyurethane Sealant for Continuous Water Immersion: ASTM C920, Grade NS, Uses M and A; single or multi-component; explicitly approved by manufacturer for continuous water immersion; suitable for traffic exposure when recessed below traffic surface.
1. Products:
 - a. Sika Corporation; Sikaflex-2c NS: www.usa-sika.com.
 - b. Substitutions: See Section 01 60 00 - Product Requirements.

- C. Noncuring Butyl Sealant: Solvent-based, single component, nonsag, nonskinning, nonhardening, nonbleeding; nonvapor permeable; intended for fully concealed applications.
1. Products:
 - a. Pecora Corporation; Pecora BA-98 Non-Skinning Butyl Sealant: www.pecora.com.
 - b. Substitutions: See Section 01 60 00 - Product Requirements.

2.05 ACCESSORIES

- A. Sealant Backing Rod, Closed-Cell Type:
1. Cylindrical flexible sealant backings complying with ASTM C1330 Type C.
 2. Size: 25 to 50 percent larger in diameter than joint width.
- B. Sealant Backing Rod, Bi-Cellular Type:
1. Cylindrical flexible sealant backings complying with ASTM C1330 Type B.
 2. Size: 25 to 50 percent larger in diameter than joint width.
- C. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.
- D. Masking Tape: Self-adhesive, nonabsorbent, nonstaining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.
- E. Joint Cleaner: Noncorrosive and nonstaining type, type recommended by sealant manufacturer; compatible with joint forming materials.
- F. Primers: Type recommended by sealant manufacturer to suit application; nonstaining.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that joints are ready to receive work.
- B. Verify that backing materials are compatible with sealants.

3.02 PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.
- E. Concrete Floor Joints That Will Be Exposed in Completed Work: Test joint filler in an inconspicuous area to verify that it does not stain or discolor slab.

3.03 INSTALLATION

- A. Install this work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Provide joint sealant installations complying with ASTM C1193.

- C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.
- D. Install bond breaker backing tape where backer rod cannot be used.
- E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.
- F. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.
- G. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

3.04 POST-OCCUPANCY

- A. Post-Occupancy Inspection: Perform visual inspection of entire length of project sealant joints at a time that joints have opened to their greatest width, i.e., at low temperature in thermal cycle. Report failures immediately and repair them.

END OF SECTION

**SECTION 09 90 00
PAINTING AND COATING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Exterior painting and coating systems.
- C. Scope:
 - 1. Finish surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
 - a. Exterior:
 - 1) Metal, Miscellaneous: Gas piping.

1.02 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; Current Edition.
- B. CARB (SCM) - Suggested Control Measure for Architectural Coatings; California Air Resources Board; 2020.
- C. SCAQMD 1113 - Architectural Coatings; 1977, with Amendment (2016).
- D. SSPC-SP 1 - Solvent Cleaning; 2015, with Editorial Revision (2016).
- E. SSPC-SP 6/NACE No.3 - Commercial Blast Cleaning; 2006.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide complete list of products to be used, with the following information for each:
 - 1. Product characteristics.
 - 2. Surface preparation instructions and recommendations.
 - 3. Primer requirements and finish specification.
 - 4. Storage and handling requirements and recommendations.
 - 5. Application methods.
 - 6. Clean-up information.

1.04 QUALITY ASSURANCE

- A. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 3 years experience and approved by manufacturer.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, product name, product code, color designation, VOC content, batch date, environmental handling, surface preparation, application, and use instructions.

- C. Paint Materials: Store at a minimum of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.
- D. Handling: Maintain a clean, dry storage area to prevent contamination or damage to materials.

1.06 FIELD CONDITIONS

- A. Do not apply materials when environmental conditions are outside the ranges required by manufacturer.
- B. Follow manufacturer's recommended procedures for producing the best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Basis of Design Products: Subject to compliance with requirements, provide Sherwin-Williams Company (The) products indicated; www.sherwin-williams.com.

2.02 PAINTINGS AND COATINGS

- A. General:
 1. Provide factory-mixed coatings unless otherwise indicated.
 2. Do not reduce, thin, or dilute coatings or add materials to coatings unless specifically indicated in manufacturer's instructions.
- B. Volatile Organic Compound (VOC) Content:
 1. Provide paints and finishes that comply with the most stringent requirements specified in the following:
 - a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
 - b. SCAQMD 1113 Rule.
 - c. CARB (SCM).
 - d. Ozone Transport Commission (OTC) Phase II Model Rule, Architectural and Industrial Maintenance Coatings; www.otcair.org.
 - e. Architectural coatings VOC limits of State in which the project is located.
 2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site, or other method acceptable to authorities having jurisdiction.
- C. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

2.03 PAINT SYSTEMS - EXTERIOR

- A. Metal, Miscellaneous: Gas piping.
 1. Alkyd Systems, Water Based:
 - a. Semi-Gloss Finish:
 - 1) 1st Coat: Sherwin-Williams Pro Industrial Pro-Cryl Universal Primer, B66-1310 Series: www.sherwin-williams.com.
 - a) 5 mils wet, minimum; 2 mils dry per coat.

- 2) 2nd and 3rd Coat: Sherwin-Williams Pro Industrial Water Based Alkyd Urethane Enamel Semi-Gloss, B53-1150 Series: www.sherwin-williams.com.
 - a) 4 to 5 mils wet, 1.4 to 1.7 mils dry per coat.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially effect proper application.

3.02 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove mildew from impervious surfaces by scrubbing with solution of water and bleach. Rinse with clean water and allow surface to dry.
- D. Ferrous Metal:
 1. Solvent clean according to SSPC-SP 1.
 2. Remove rust, loose mill scale, and other foreign substances using methods recommended by paint manufacturer and blast cleaning in accordance with SSPC-SP 6/NACE No.3. Protect from corrosion until coated.

3.03 APPLICATION

- A. Apply products in accordance with manufacturer's written instructions.
- B. Apply coatings at spread rate required to achieve manufacturer's recommended dry film thickness.

3.04 PRIMING

- A. Apply primer to all surfaces unless specifically not required by coating manufacturer. Apply in accordance with coating manufacturer's instructions.
- B. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to top coat manufacturers.

3.05 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.
- B. Clean surfaces immediately of overspray, splatter, and excess material.
- C. After coating has cured, clean and replace finish hardware, fixtures, and fittings previously removed.

3.06 PROTECTION

- A. Protect finished coatings from damage until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

SECTION 23 01 30.51
HVAC AIR-DISTRIBUTION SYSTEM CLEANING

PART 1 GENERAL**1.01 SECTION INCLUDES**

- A. Cleaning of HVAC duct system, equipment, and related components.

1.02 DEFINITIONS

- A. HVAC System: For purposes of this section, the surfaces to be cleaned include all interior surfaces of the heating, air-conditioning and ventilation system from the points where the air enters the system to the points where the air is discharged from the system, including the inside of air distribution equipment, coils, and condensate drain pans; see NADCA ACR for more details.

1.03 REFERENCE STANDARDS

- A. NADCA ACR - Assessment, Cleaning and Restoration of HVAC Systems; 2014.
- B. UL 181 - Standard for Factory-Made Air Ducts and Air Connectors; current edition, including all revisions.
- C. UL 181A - Closure Systems for Use with Rigid Air Ducts; Current Edition, Including All Revisions.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Qualifications Statement: Submit qualifications of proposed cleaning contractor for approval.
- C. Project Closeout Report: Include field quality control reports, evidence of satisfactory cleaning, and documentation of items needing further repair.

1.05 QUALITY ASSURANCE

- A. Cleaning Contractor Qualifications: Company specializing in the cleaning and restoration of HVAC systems as specified in this section.
 - 1. Certified by one of the following:
 - a. NADCA, National Air Duct Cleaners Association: www.nadca.com
 - b. Nationally recognized certification program and organization dedicated to the cleaning of HVAC systems.
 - 2. Employing for this project a supervisor certified by same organization that certified the cleaning contractor.

PART 2 PRODUCTS**2.01 TOOLS AND EQUIPMENT**

- A. Vacuum Devices and Other Tools: Exceptionally clean, in good working order, and sealed when brought into the facility.
- B. Vacuum Devices That Exhaust Air Inside Building, Including Hand-Held and Wet Vacuums: Equipped with HEPA filtration with 99.97 percent collection efficiency for minimum 0.3-micron size particles and DOP test number.

- C. Vacuum Devices That Exhaust Air Outside Building, Including Truck- and Trailer-Mounted Types: Equipped with particulate collection including adequate filtration to contain debris removed from the HVAC system; exhausted in manner that prevents contaminant re-entry to building; compliant with applicable regulations as to outdoor environmental contamination.

PART 3 EXECUTION

3.01 PROJECT CONDITIONS

- A. Comply with applicable federal, state, and local requirements.
- B. Perform cleaning, inspection, and remediation in accordance with the recommendations of NADCA "Assessment, Cleaning and Restoration of HVAC Systems" (ACR) and as specified herein.
- C. Where NADCA ACR uses the terms "recommended", "highly recommended", or "ideally" in regard to a certain procedure or activity, do that unless it is clearly inapplicable to the project.
- D. Obtain Owner's approval of proposed temporary locations for large equipment.
- E. Designate a decontamination area and obtain Owner's approval.
- F. If unforeseen mold or other biological contamination is encountered, notify Architect/Engineer immediately, identifying areas affected and extent and type of contamination.

3.02 EXAMINATION

- A. Inspect the system as required to determine appropriate methods, tools, equipment, and protection.
- B. Start of cleaning work constitutes acceptance of existing conditions.
- C. When concealed spaces are later made accessible, examine and document interior conditions prior to beginning cleaning.
- D. Document all instances of mold growth, rodent droppings, other biological hazards, and damaged system components.

3.03 PREPARATION

- A. When cleaning work might adversely affect life safety systems, including fire and smoke detection, alarm, and control, coordinate scheduling and testing and inspection procedures with authorities having jurisdiction.
- B. Ensure that electrical components that might be adversely affected by cleaning are de-energized, locked out, and protected prior to beginning work.
- C. Air-Volume Control Devices: Mark the original position of dampers and other air-directional mechanical devices inside the HVAC system prior to starting cleaning.
- D. Access to Concealed Spaces: Use existing service openings and make additional service openings as required to accomplish cleaning and inspection.
 1. Do not cut openings in non-HVAC components without obtaining the prior approval of Owner.
 2. Make new openings in HVAC components in accordance with NADCA Standard 05; do not compromise the structural integrity of the system.
 3. Do not cut service openings into flexible duct; disconnect at ends for cleaning and inspection.

3.04 CLEANING

- A. Use any cleaning method recommended by NADCA ACR unless otherwise specified; do not use methods prohibited by NADCA ACR, or that will damage HVAC components or other work, or that will significantly alter the integrity of the system.
- B. Obtain Owner's approval before using wet cleaning methods; ensure that drainage is adequate before beginning.
- C. Ducts: Mechanically clean all portions of ducts.
- D. Hoses, Cables, and Extension Rods: Clean using suitable sanitary damp wipes at the time they are being removed or withdrawn from their normal position.
- E. Registers, Diffusers, and Grilles: When removing, take care to prevent containment exposure due to accumulated debris.
- F. Collect debris removed during cleaning; ensure that debris is not dispersed outside the HVAC system during the cleaning process.
- G. Store contaminated tools and equipment in polyethylene bags until cleaned in the designated decontamination area.

3.05 REPAIR

- A. Repair openings cut in the ventilation system so that they do not significantly alter the airflow or adversely impact the facility's indoor air quality.
- B. Reseal new openings in accordance with NADCA Standard 05.
- C. Reseal rigid fiber glass duct systems using closure techniques that comply with UL 181 or UL 181A.
- D. When new openings are intended to be capable of being re-opened in the future, clearly mark them and report their locations to Owner in project report documents.

3.06 FIELD QUALITY CONTROL

- A. Ensure that the following field quality control activities are completed prior to application of any treatments or coatings and prior to returning HVAC system to normal operation.
- B. Visually inspect all portions of the cleaned components; if not visibly clean as defined in NADCA ACR, re-clean and reinspect.
- C. When directed, re-clean components until they pass.
- D. Submit evidence that all portions of the system required to be cleaned have been cleaned satisfactorily.

3.07 ADJUSTING

- A. After satisfactory completion of field quality control activities, restore adjustable devices to original settings, including, but not limited to, dampers, air directional devices, valves, fuses, and circuit breakers.

3.08 WASTE MANAGEMENT

- A. Double-bag waste and debris in 6 mil, 0.006 inch thick polyethylene plastic bags.
- B. Dispose of debris off-site in accordance with applicable federal, state and local requirements.

END OF SECTION

**SECTION 23 05 53
IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Nameplates.
- B. Tags.
- C. Stencils.
- D. Pipe markers.

1.02 RELATED REQUIREMENTS

- A. Section 09 90 00 - Painting and Coating

1.03 REFERENCE STANDARDS

- A. ASME A13.1 - Scheme for the Identification of Piping Systems; 2007.
- B. ASTM D709 - Standard Specification for Laminated Thermosetting Materials; 2013.

PART 2 PRODUCTS

2.01 IDENTIFICATION APPLICATIONS

- A. Air Handling Units: Nameplates.
- B. Instrumentation: Tags.
- C. Major Control Components: Nameplates.
- D. Piping: Stencilled painting.
- E. Thermostats: Nameplates.

2.02 NAMEPLATES

- A. Manufacturers:
 - 1. Brimar Industries, Inc.
 - 2. Kolbi Pipe Marker Co..
 - 3. Seton Identification Products.
 - 4. Letter Color: Black.
 - 5. Letter Height: 1/2 inch.
 - 6. Background Color: White.
 - 7. Plastic: Comply with ASTM D709.

2.03 TAGS

- A. Manufacturers:
 - 1. Brady Corporation.
 - 2. Brimar Industries, Inc.
 - 3. Kolbi Pipe Marker Co..
 - 4. Seton Identification Products.

- B. Plastic Tags: Laminated three-layer plastic with engraved black letters on light contrasting background color. Tag size minimum 1-1/2 inch diameter.

2.04 STENCILS

- A. Stencils: With clean cut symbols and letters of following size:
 - 1. 3/4 to 1-1/4 inch Outside Diameter of Insulation or Pipe: 8 inch long color field, 1/2 inch high letters.
 - 2. 1-1/2 to 2 inch Outside Diameter of Insulation or Pipe: 8 inch long color field, 3/4 inch high letters.
- B. Stencil Paint: As specified in Section 09 90 00, semi-gloss enamel, colors complying with ASME A13.1.

PART 3 EXECUTION

3.01 PREPARATION

- A. Degrease and clean surfaces to receive adhesive for identification materials.

3.02 INSTALLATION

- A. Apply stencil painting in accordance with Section 09 90 00.
- B. Identify pipe service, flow direction, and pressure.
- C. Install pipe markers in clear view and align with axis of piping.
- D. Location of pipe identification not to exceed 20 feet on straight runs including risers and drops, adjacent to each valve and Tee, at each side of penetration of structure or enclosure, and at each obstruction.

END OF SECTION

SECTION 23 07 13 DUCT INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Duct insulation.
- B. Jacketing and accessories.

1.02 RELATED REQUIREMENTS

- A. Section 23 31 00 - HVAC Ducts and Casings.

1.03 REFERENCE STANDARDS

- A. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.
- B. ASTM C411 - Standard Test Method for Hot-Surface Performance of High-Temperature Thermal Insulation.
- C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.
- D. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials; Current Edition, Including All Revisions.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide product description, thermal characteristics, list of materials and thickness for each service, and locations.
- C. Manufacturer's Instructions: Indicate installation procedures necessary to ensure acceptable workmanship and that installation standards will be achieved.

1.05 QUALITY ASSURANCE

- A. Applicator Qualifications: Company specializing in performing the type of work specified in this section, with minimum three years of experience and approved by manufacturer.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Accept materials on site in original factory packaging, labelled with manufacturer's identification, including product density and thickness.
- B. Protect insulation from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original wrapping.

1.07 FIELD CONDITIONS

- A. Maintain ambient temperatures and conditions required by manufacturers of adhesives, mastics, and insulation cements.
- B. Maintain temperature during and after installation for minimum period of 24 hours.

PART 2 PRODUCTS

2.01 REGULATORY REQUIREMENTS

- A. Surface Burning Characteristics: Flame spread index/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84, UL 723, ASTM E84, or UL 723.
- B. Insulation minimum thickness shall meet or exceed requirements as listed in International Energy Conservation Code, 2021.

2.02 POLYISOCYANURATE FOAM BOARD

- A. Manufacturer:
 - 1. Dow Chemical; Model Super Tuff-R.
 - 2. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Polyisocyanurate insulation: Closed cell, foam core board sandwiched between durable exterior aluminum foil facers. Suitable for exterior ductwork application.
 - 1. R-Value: 6.5 at 75 degrees F; ASTM 1289 and ASTM C236/C518.
 - 2. Compressive Strength: minimum 25 psi; ASTM D1621
 - 3. Moisture vapor transmission; <0.03 perm-in., ASTM E96.
 - 4. Water absorption; <0.1% by volume, ASTM C209

2.03 JACKETING AND ACCESSORIES

- A. Aluminum Jacket:
 - 1. Comply with ASTM B209/B209M, Temper H14, minimum thickness of 0.040 inch with factory-applied polyethylene and kraft paper moisture barrier on the inside surface.
 - 2. Thickness: 0.040 inch sheet.
 - 3. Finish: Embossed.
 - 4. Color: White
 - 5. Joining: Longitudinal slip joints and 2 inch laps.
 - 6. Fittings: 0.040 inch thick die-shaped fitting covers with factory-attached protective liner.
 - 7. Metal Jacket Bands: 3/8 inch wide; 0.015 inch thick aluminum.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Test ductwork for design pressure prior to applying insulation materials.
- B. Verify that surfaces are clean, foreign material removed, and dry.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install in accordance with NAIMA National Insulation Standards.
- C. Insulated Ducts:
 - 1. Provide insulation with vapor barrier jackets.
 - 2. Finish with tape and vapor barrier jacket.
 - 3. Continue insulation through walls, sleeves, hangers, and other duct penetrations.

4. Insulate entire system, including fittings, joints, flanges, fire dampers, flexible connections, and expansion joints.
- D. Exterior Applications: Provide insulation with vapor barrier jacket. Cover with caulked aluminum jacket with seams located on bottom side of horizontal duct section.
- E. Slope exterior ductwork to shed water.
- F. External Duct Insulation Application:
1. Secure insulation with vapor barrier with wires and seal jacket joints with vapor barrier adhesive or tape to match jacket.
 2. Secure insulation without vapor barrier with staples, tape, or wires.
 3. Install without sag on underside of duct. Use adhesive or mechanical fasteners where necessary to prevent sagging. Lift duct off trapeze hangers and insert spacers.
 4. Seal vapor barrier penetrations by mechanical fasteners with vapor barrier adhesive.
 5. Stop and point insulation around access doors and damper operators to allow operation without disturbing wrapping.

3.03 SCHEDULES

- A. Ducts Exposed to Outdoors:
1. Polyisocyanurate: 2 inches thick (minimum R-12) with aluminum jacket.

END OF SECTION

SECTION 23 09 13
INSTRUMENTATION AND CONTROL DEVICES FOR HVAC

PART 1 GENERAL**1.01 SECTION INCLUDES**

- A. Control panels.
- B. Input/Output Sensors:
 - 1. Temperature sensors.
 - 2. Equipment operation (current) sensors.
 - 3. Damper position indicators.

1.02 RELATED REQUIREMENTS

- A. Section 23 09 23 - Direct-Digital Control System for HVAC.
- B. Section 26 05 83 - Wiring Connections: Electrical characteristics and wiring connections.

1.03 REFERENCE STANDARDS

- A. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2014.

1.04 SUBMITTALS

- A. Product Data: Provide description and engineering data for each control system component. Include sizing as requested. Provide data for each system component and software module.
- B. Shop Drawings: Indicate complete operating data, system drawings, wiring diagrams, and written detailed operational description of sequences. Submit schedule of valves indicating size, flow, and pressure drop for each valve. For automatic dampers indicate arrangement, velocities, and static pressure drops for each system.
- C. Operation and Maintenance Data: Include inspection period, cleaning methods, recommended cleaning materials, and calibration tolerances.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.
- B. Installer Qualifications: Company specializing in performing the work of this section with minimum 3 years experience approved by manufacturer.
- C. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

PART 2 PRODUCTS**2.01 EQUIPMENT - GENERAL**

- A. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

2.02 CONTROL PANELS

- A. Unitized cabinet type for each system under automatic control with relays and controls mounted in cabinet and temperature indicators, pressure gages, pilot lights, push buttons and switches flush on cabinet panel face.
- B. NEMA 250, general purpose utility enclosures with enameled finished face panel.
- C. Provide common keying for all panels.

2.03 INPUT/OUTPUT SENSORS

- A. Temperature Sensors:
 - 1. Use thermistor or RTD type temperature sensing elements with characteristics resistant to moisture, vibration, and other conditions consistent with the application without affecting accuracy and life expectancy.
 - 2. Construct RTD of nickel or platinum with base resistance of 1000 ohms at 70 degrees F.
 - 3. 100 ohm platinum RTD is acceptable if used with project DDC controllers.
 - 4. Temperature Sensing Device: Compatible with project DDC controllers.
 - 5. Performance Characteristics:
 - a. RTD:
 - 1) Room Sensor Accuracy: Plus/minus 0.50 degrees F minimum.
 - 2) Duct Averaging Accuracy: Plus/minus 0.50 degrees F minimum.
 - 3) All Other Accuracy: Plus/minus 0.75 degrees F minimum.
 - 4) Range: Minus 40 degrees F through 220 degrees F minimum.
 - b. Temperature Transmitter:
 - 1) Accuracy: 0.10 degree F minimum or plus/minus 0.20 percent of span.
 - 2) Output: 4 to 20 mA.
 - c. Sensing Range:
 - 1) Provide limited range sensors if required to sense the range expected for a respective point.
 - 2) Use RTD type sensors for extended ranges beyond minus 30 degrees F to 230 degrees F.
 - 3) Use temperature transmitters in conjunction with RTD's when RTD's are incompatible with DDC controller direct temperature input.
 - d. Wire Resistance:
 - 1) Use appropriate wire size to limit temperature offset due to wire resistance to 1.0 degree F or use temperature transmitter when offset is greater than 1.0 degree F due to wire resistance.
 - 2) Compensate for wire resistance in software input definition when feature is available in the DDC controller.
 - e. Outside Air Sensors: Watertight inlet fitting shielded from direct rays of the sun.
 - f. Immersion Temperature Sensors: A sensor encased in a corrosion-resistant probe with an indoor junction box service entry body.
 - g. Room Temperature Sensors:
 - h. Room Temperature Sensors with Integral Digital Display:
 - 1) Construct for surface or wall box.
 - 2) Provide a four button keypad with the following capabilities:

- a) Indication of space and outdoor temperatures.
 - b) Setpoint adjustment to accommodate room setpoint.
 - c) Display and control fan operation status.
 - d) Manual occupancy override and indication of occupancy status.
 - e) Controller mode status.
 - f) Password enabled setpoint and override modes.
 - i. Temperature Averaging Elements:
 - 1) Use on duct sensors for ductwork 10 sq ft or larger.
 - 2) Provide for all mixed air and heating coil discharge sensors regardless of duct size.
 - j. Insertion Elements:
 - 1) Provide dry type, insertion elements for liquids, installed in immersion wells, with minimum insertion length of 2.5 inches.
- B. Equipment Operation (Current) Sensors:
- 1. Status Inputs for Pumps: Differential pressure switch piped across pump with adjustable pressure differential range of 8 to 60 psi.
 - 2. Status Inputs for Electric Motors: Current sensing relay with current transformers, adjustable and set to 175 percent of rated motor current.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that systems are ready to receive work.
- C. Beginning of installation means installer accepts existing conditions.
- D. Coordinate installation of system components with installation of mechanical systems equipment such as air handling units and air terminal units.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Mount outdoor reset thermostats and outdoor sensors indoors, with sensing elements outdoors with sun shield.
- C. Provide separable sockets for liquids and flanges for air bulb elements.
- D. Mount control panels adjacent to associated equipment on vibration free walls or free standing angle iron supports. One cabinet may accommodate more than one system in same equipment room. Provide engraved plastic nameplates for instruments and controls inside cabinet and engraved plastic nameplates on cabinet face.
- E. Install "hand/off/auto" selector switches to override automatic interlock controls when switch is in "hand" position.
- F. Provide conduit and electrical wiring in accordance with Section 26 05 83. Electrical material and installation shall be in accordance with appropriate requirements of Division 26.

END OF SECTION

SECTION 23 09 23
DIRECT-DIGITAL CONTROL SYSTEM FOR HVAC

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. System description.
- B. Controllers.
- C. Power supplies and line filtering.
- D. System software.
- E. Controller software.
- F. HVAC control programs.
- G. Rough-in, wiring to, and final connections to products specified in this Section.

1.02 RELATED REQUIREMENTS

- A. Section 23 09 13 - Instrumentation and Control Devices for HVAC.

1.03 REFERENCE STANDARDS

- A. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Expand building control system to interface with new equipment and perform the sequence of operation specified. Modify automation system graphics to delete removed equipment and add new equipment.
- B. Provide a color graphical representation of all systems. The graphical display shall include all points indicated in the points list and any others required to achieve the sequences of operation. The graphical user interface shall consist of the following as a minimum;
 - 1. Menu bar navigation via windows-like bars.
 - 2. Navigation will also be available via an image of the building profile from which the user clicks on floors to bring up individual floor plans.
 - 3. The individual floor plan zones shall change color based upon the difference between the actual zone temperature and zone set point so that the operator can tell at a glance if zones are in, above or below acceptable ranges. A minimum of five (5) colors are required: Color 1 = within acceptable range of set point, Color 2 = warning - zone is above acceptable range of set point and approaching high temperature alarm; Color 3 = zone is in high temperature alarm; Color 4 = warning - zone is below acceptable range of set point and approaching low temperature alarm; Color 5 = zone is in low temperature alarm.
 - 4. Clicking on a floor plan zone shall bring up a dynamic color graphic of the mechanical equipment that serves that zone.
 - 5. Each major piece of mechanical equipment (terminal unit, AHU, boiler, chillers, cooling towers, etc.) shall have a pictorial dynamic color graphic. The central plant equipment may be combined as appropriate on one or more graphic page.

6. Text-based (non-pictorial) summary screens will also be provided so that the operator may view critical information on multiple units at once. Summary screens will be provided for terminal units and air handling units. Summary screens for VAV/FPVAV boxes will contain as a minimum room temperature, room temperature set point, occ/unocc status and CFM for each box. Summary screens for AHUs will contain as a minimum space temperature (CV units) or discharge temperature (VAV units) and the corresponding set point, static pressure (VAV units), OA damper position, mixed air temperature, fan status and occ/unocc status.
7. Clicking on a unit on any summary screen shall bring up the complete graphic for that unit.
8. Outside air temperature shall be displayed on each graphic screen.

1.05 SUBMITTALS

- A. Product Data: Provide data for each system component and software module.
- B. Shop Drawings:
 1. Indicate trunk cable schematic showing programmable control unit locations, and trunk data conductors.
 2. Indicate system graphics indicating monitored systems, data (connected and calculated) point addresses, and operator notations.
 3. Show system configuration with peripheral devices, batteries, power supplies, diagrams, modems, and interconnections.
 4. Indicate description and sequence of operation of operating, user, and application software.
- C. Project Record Documents: Record actual locations of control components, including control units, thermostats, and sensors.
 1. Revise shop drawings to reflect actual installation and operating sequences.
- D. Operation and Maintenance Data:
 1. Include interconnection wiring diagrams complete field installed systems with identified and numbered, system components and devices.
 2. Include keyboard illustrations and step-by-step procedures indexed for each operator function.
 3. Include inspection period, cleaning methods, cleaning materials recommended, and calibration tolerances.
- E. Warranty: Submit manufacturer's warranty and ensure forms have been filled out in Owner's name and registered with manufacturer.

1.06 PROTECTION OF SOFTWARE RIGHTS

- A. Prior to delivery of software, the Owner and the party providing the software will enter into a software license agreement with provisions for the following:
 1. Limiting use of software to equipment provided under these specifications.
 2. Limiting copying.
 3. Preserving confidentiality.
 4. Prohibiting transfer to a third party.
- B. Provide Owner administrative rights after warranty period expires.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Delta Controls Chicago, 630-589-3800.

2.02 SYSTEM DESCRIPTION

- A. Automatic temperature control field monitoring and control system using field programmable micro-processor based units.
- B. Base system on distributed system of fully intelligent, stand-alone controllers, operating in a multi-tasking, multi-user environment on token passing network, with central and remote hardware, software, and interconnecting wire and conduit.
- C. Include computer software and hardware, operator input/output devices, control units, local area networks (LAN), sensors, control devices, actuators.
- D. Provide control systems consisting of thermostats, control valves, dampers and operators, indicating devices, interface equipment and other apparatus and accessories required to operate mechanical systems, and to perform functions specified.
- E. Include installation and calibration, supervision, adjustments, and fine tuning necessary for complete and fully operational system.

2.03 CONTROLLERS

A. BUILDING CONTROLLERS

1. General:
 - a. Manage global strategies by one or more, independent, standalone, microprocessor based controllers.
 - b. Provide sufficient memory to support controller's operating system, database, and programming requirements.
 - c. Share data between networked controllers.
 - d. Controller operating system manages input and output communication signals allowing distributed controllers to share real and virtual object information and allowing for central monitoring and alarms.
 - e. Utilize real-time clock for scheduling.
 - f. Continuously check processor status and memory circuits for abnormal operation.
 - g. Controller to assume predetermined failure mode and generate alarm notification upon detection of abnormal operation.
 - h. Communication with other network devices to be based on assigned protocol.
2. Communication:
 - a. Controller to reside on a BACnet network using ISO 8802-3 (ETHERNET) Data Link/Physical layer protocol.
 - b. Perform routing when connected to a network of custom application and application specific controllers.
 - c. Provide service communication port for connection to a portable operator's terminal or hand held device with compatible protocol.
3. Anticipated Environmental Ambient Conditions:
 - a. Conditioned Space:

- 1) Mount within dustproof enclosures.
- 2) Rated for operation at 32 to 120 degrees F.
4. Provisions for Serviceability:
 - a. Diagnostic LEDs for power, communication, and processor.
 - b. Make all wiring connections to field removable, modular terminal strips, or to a termination card connected by a ribbon cable.
5. Memory: In the event of a power loss, maintain all BIOS and programming information for a minimum of 72 hours.
6. Power and Noise Immunity:
 - a. Maintain operation at 90 to 110 percent of nominal voltage rating.
 - b. Perform orderly shutdown below 80 percent of nominal voltage.
 - c. Operation protected against electrical noise of 5 to 120 Hz and from keyed radios up to 5 W. at 3 feet.

B. INPUT/OUTPUT INTERFACE

1. Hardwired inputs and outputs tie into the DDC system through building, custom application, or application specific controllers.
2. All Input/Output Points:
 - a. Protect controller from damage resulting from any point short-circuiting or grounding and from voltage up to 24 volts of any duration.
 - b. Provide universal type for building and custom application controllers where input or output is software designated as either binary or analog type with appropriate properties.
3. Binary Inputs:
 - a. Allow monitoring of On/Off signals from remote devices.
 - b. Provide wetting current of 12 mA minimum, compatible with commonly available control devices and protected against the effects of contact bounce and noise.
 - c. Sense dry contact closure with power provided only by the controller.
4. Pulse Accumulation Input Objects: Conform to all requirements of binary input objects and accept up to 10 pulses per second.
5. Analog Inputs:
 - a. Allow for monitoring of low voltage 0 to 10 VDC, 4 to 20 mA current, or resistance signals (thermistor, RTD).
 - b. Compatible with and field configurable to commonly available sensing devices.
6. Binary Outputs:
 - a. Used for On/Off operation or a pulsed low-voltage signal for pulse width modulation control.
 - b. Outputs provided with three position (On/Off/Auto) override switches.
 - c. Status lights for building and custom application controllers to be selectable for normally open or normally closed operation.
7. Analog Outputs:
 - a. Monitoring signal provides a 0 to 10 VDC or a 4 to 20 mA output signal for end device control.
 - b. Provide status lights and two position (AUTO/MANUAL) switch for building and custom application controllers with manually adjustable potentiometer for manual override on building and custom application controllers.
 - c. Drift to not exceed 0.4 percent of range per year.
8. System Object Capacity:

- a. System size to be expandable to twice the number of input output objects required by providing additional controllers, including associated devices and wiring.
- b. Hardware additions or software revisions for the installed operator interfaces are not to be required for future, system expansions.

2.04 POWER SUPPLIES AND LINE FILTERING

A. Power Supplies:

1. Provide UL listed control transformers with Class 2 current limiting type or over-current protection in both primary and secondary circuits for Class 2 service as required by the NEC.
2. Limit connected loads to 80 percent of rated capacity.
3. Match DC power supply to current output and voltage requirements.
4. Unit to be full wave rectifier type with output ripple of 5.0 mV maximum peak to peak.
5. Regulation to be 1 percent combined line and load with 100 microsecond response time for 50 percent load changes.
6. Provide over-voltage and over-current protection to withstand a 150 percent current overload for 3 seconds minimum without trip-out or failure.
7. Operational Ambient Conditions: 32 to 120 degrees F.
8. Line voltage units UL recognized and CSA approved.

B. Power Line Filtering:

1. Provide external or internal transient voltage and surge suppression component for all workstations and controllers.
2. Minimum surge protection attributes:
 - a. Dielectric strength of 1000 volts minimum.
 - b. Response time of 10 nanoseconds or less.
 - c. Transverse mode noise attenuation of 65 dB or greater.
 - d. Common mode noise attenuation of 150 dB or greater at 40 to 100 Hz.

2.05 LOCAL AREA NETWORK (LAN)

- A. Provide communication between control units over local area network (LAN) matching existing system.

2.06 CONTROLLER SOFTWARE

- A. All applications reside and operate in the system controllers and editing of all applications occurs at the operator workstation.
- B. System Security:
 1. User access secured via user passwords and user names.
 2. Passwords restrict user to the objects, applications, and system functions as assigned by the system manager.
 3. User Log On/Log Off attempts are recorded.
 4. Automatic Log Off occurs following the last keystroke after a user defined delay time.
- C. Object or Object Group Scheduling:
 1. Weekly Schedules Based on Separate, Daily Schedules:
 - a. Include start, stop, optimal stop, and night economizer.
 - b. 10 events maximum per schedule.
 - c. Start/stop times adjustable for each group object.

- D. Provide standard application for equipment coordination and grouping based on function and location to be used for scheduling and other applications.
- E. Alarms:
 - 1. Binary object is set to alarm based on the operator specified state.
 - 2. Analog object to have high/low alarm limits.
 - 3. All alarming is capable of being automatically and manually disabled.
 - 4. Alarm Reporting:
 - a. Operator determines action to be taken for alarm event.
 - b. Alarms to be routed to appropriate workstation.
 - c. Reporting Options:
- F. Maintenance Management: System monitors equipment status and generates maintenance messages based upon user-designated run-time limits.
- G. Sequencing: Application software based upon specified sequences of operation shown on the Drawings.
- H. PID Control Characteristics:
 - 1. Direct or reverse action.
 - 2. Anti-windup.
 - 3. Calculated, time-varying, analog value, positions an output or stages a series of outputs.
 - 4. User selectable controlled variable, set-point, and PED gains.
- I. Staggered Start Application:
 - 1. Prevents all controlled equipment from simultaneously restarting after power outage.
 - 2. Order of equipment startup is user selectable.
- J. On-Off Control with Differential:
 - 1. Algorithm allows binary output to be cycled based on a controlled variable and set-point.
 - 2. Algorithm to be direct-acting or reverse-acting incorporating an adjustable differential.
- K. Run-Time Totalization:
 - 1. Totalize run-times for all binary input objects.
 - 2. Provides operator with capability to assign high run-time alarm.

2.07 HVAC CONTROL PROGRAMS

- A. General:
 - 1. Support Inch-pounds and SI (metric) units of measurement.
 - 2. Identify each HVAC Control system.
- B. Optimal Run Time:
 - 1. Control start-up and shutdown times of HVAC equipment for both heating and cooling.
 - 2. Base on occupancy schedules, outside air temperature, seasonal requirements, and interior room mass temperature.
 - 3. Start-up systems by using outside air temperature, room mass temperatures, and adaptive model prediction for how long building takes to warm up or cool down under different conditions.
 - 4. Use outside air temperature to determine early shut down with ventilation override.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that conditioned power supply is available to the control units and to the operator work station. Verify that field end devices, wiring, and pneumatic tubing is installed prior to installation proceeding.

3.02 INSTALLATION

- A. Install control units and other hardware in position on permanent walls where not subject to excessive vibration.
- B. Install software in control units and in operator work station. Implement all features of programs to specified requirements and appropriate to sequence of operation.
- C. Electrical material and installation shall be in accordance with appropriate requirements of Division 26.
 - 1. Provide conduit for all control wiring exposed to view. This includes but is not limited to all storage rooms, mechanical rooms, and similar spaces.
 - 2. Provide conduit for all control wiring concealed in inaccessible spaces. This includes but is not limited to wiring above/behind drywall and plaster ("hard") ceilings or soffits, and wiring within vertical chase spaces, regardless of whether access doors are provided or not.
 - 3. Control wiring that is concealed above readily accessible ceilings such as acoustical lay-in ceilings, need not be run in conduit.
- D. All exposed conduit wiring that is not located above an accessible ceiling shall be installed in conduit. This includes all storage room, mechanical rooms, etc.

3.03 MANUFACTURER'S FIELD SERVICES

- A. Start and commission systems. Allow sufficient time for start-up and commissioning prior to placing control systems in permanent operation.
- B. Provide service engineer to instruct Owner's representative in operation of systems plant and equipment for 1 day period.
- C. Provide basic operator training for 3 persons on data display, alarm and status descriptors, requesting data, execution of commands and request of logs. Include a minimum of 4 hours dedicated instructor time. Provide training on site.

3.04 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate complete and operating system to Owner.

END OF SECTION

**SECTION 23 11 23
FACILITY NATURAL-GAS PIPING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Pipe, pipe fittings, valves, and connections for natural gas piping systems.

1.02 RELATED REQUIREMENTS

- A. Section 09 90 00 - Painting and Coating
- B. Section 23 05 53 - IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT.

1.03 REFERENCE STANDARDS

- A. ANSI Z21.18/CSA 6.3 - Gas Appliance Pressure Regulators; 2007 (Reaffirmed 2012).
- B. ANSI Z223.1 - National Fuel Gas Code; 2021.
- C. ASME B16.3 - Malleable Iron Threaded Fittings: Classes 150 and 300; 2011.
- D. ASME B31.1 - Power Piping; 2014.
- E. ASME B31.9 - Building Services Piping; 2014.
- F. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2012.
- G. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2015.
- H. ASTM A234/A234M - Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service; 2015.
- I. MSS SP-78 - Cast Iron Plug Valves, Flanged and Threaded Ends; 2011.
- J. MSS SP-110 - Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends; 2010.

1.04 QUALITY ASSURANCE

- A. Perform work in accordance with applicable codes.
- B. Valves: Manufacturer's name and pressure rating marked on valve body.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Accept valves on site in shipping containers with labeling in place. Inspect for damage.
- B. Provide temporary protective coating on cast iron and steel valves.
- C. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.
- D. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.

PART 2 PRODUCTS

2.01 NATURAL GAS PIPING, ABOVE GRADE

- A. Steel Pipe: ASTM A53/A53M, Schedule 40 black.
 1. Fittings: ASME B16.3, malleable iron, or ASTM A234/A234M, wrought steel welding type.
 2. Joints: Threaded or welded to ASME B31.1.

2.02 FLANGES, UNIONS, AND COUPLINGS

- A. Unions for Pipe Sizes 3 Inches and Under:
 1. Ferrous pipe: Class 150 malleable iron threaded unions.

2.03 PIPE HANGERS AND SUPPORTS

- A. Provide hangers and supports that comply with MSS SP-58.
 1. If type of hanger or support for a particular situation is not indicated, select appropriate type using MSS SP-58 recommendations.
 2. Overhead Supports: Individual steel rod hangers attached to structure or to trapeze hangers.
 3. Trapeze Hangers: Welded steel channel frames attached to structure.
 4. Vertical Pipe Support: Steel riser clamp.
 5. Floor Supports: Concrete pier or steel pedestal with floor flange; fixture attachment.
 6. Rooftop Supports for Low-Slope Roofs: Steel pedestals with bases that rest on top of roofing membrane, not requiring any attachment to the roof structure and not penetrating the roofing assembly, with support fixtures as specified; and as follows:
 - a. Bases: High density polypropylene.
 - b. Base Sizes: As required to distribute load sufficiently to prevent indentation of roofing assembly.
 - c. Steel Components: Stainless steel, or carbon steel hot-dip galvanized after fabrication in accordance with ASTM A123/A123M.
 - d. Attachment/Support Fixtures: As recommended by manufacturer, same type as indicated for equivalent indoor hangers and supports; corrosion resistant material.
 - e. Height: Provide minimum clearance of 6 inches under pipe to top of roofing.

2.04 BALL VALVES

- A. Construction, 4 Inches and Smaller: MSS SP-110, Class 150, 400 psi CWP, bronze or ductile iron body, 304 stainless steel ball, regular port, Teflon seats and stuffing box ring, blow-out proof stem, lever handle, threaded ends with union.

2.05 PLUG VALVES

- A. Construction 2-1/2 Inches and Larger: MSS SP-78, 175 psi CWP, cast iron body and plug, pressure lubricated, Teflon or Buna N packing, flanged ends. Provide lever operator with set screw.

2.06 LINE PRESSURE REGULATORS AND APPLIANCE REGULATORS INDICATORS

- A. Compliance Requirements:
 1. Appliance Regulator: ANSI Z21.18/CSA 6.3.
- B. Materials in Contact With Gas:

1. Housing: Aluminum, steel (free of non-ferrous metals).
 2. Seals and Diaphragms: NBR-based rubber.
- C. Maximum Inlet Operating Pressure: 5 psi.
1. Appliance Regulator: 5 psi.
- D. Maximum Body Pressure: 10 psi.
- E. Output Pressure Range: 1 inch wc to 80 inch wc.

PART 3 EXECUTION

3.01 PREPARATION

- A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Remove scale and dirt, on inside and outside, before assembly.
- C. Prepare piping connections to equipment with flanges or unions.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Route piping in orderly manner and maintain gradient. Route parallel and perpendicular to walls.
- C. Install piping to maintain headroom, conserve space, and not interfere with use of space.
- D. Prepare exposed, unfinished pipe, fittings, supports, and accessories ready for finish painting.
 1. Painting of exterior piping systems and components is specified in Section 09 90 00.
- E. Install valves with stems upright or horizontal, not inverted.
- F. Pipe vents from gas pressure reducing valves to outdoors and terminate in weather proof hood.
- G. Sleeve pipes passing through partitions, walls and floors.
- H. Pipe Hangers and Supports:
 1. Install in accordance with ASME B31.9.
 2. Support horizontal piping as indicated.
 3. Place hangers within 12 inches of each horizontal elbow.
 4. Support vertical piping at every floor. Support riser piping independently of connected horizontal piping.

3.03 APPLICATION

- A. Install unions downstream of valves and at equipment or apparatus connections.
- B. Install ball valves for shut-off and to isolate equipment, part of systems, or vertical risers.
- C. Provide plug valves in natural gas systems for shut-off service.

3.04 SCHEDULES

- A. Pipe Hanger Spacing:
 1. Metal Piping:
 - a. Pipe Size: 1/2 inches to 1-1/4 inches:

- 1) Maximum Hanger Spacing: 6.5 ft.
- 2) Hanger Rod Diameter: 3/8 inches.

END OF SECTION

**SECTION 23 31 00
HVAC DUCTS AND CASINGS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Metal ductwork.

1.02 RELATED REQUIREMENTS

- A. Section 23 07 13 - Duct Insulation: External insulation.
- B. Section 23 33 00 - Air Duct Accessories.
- C. Section 23 37 00 - Air Outlets and Inlets.

1.03 REFERENCE STANDARDS

- A. ASHRAE (FUND) - ASHRAE Handbook - Fundamentals; 2013.
- B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.
- C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.
- D. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems; 2015.
- E. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible; 2020.
- F. UL 181 - Standard for Factory-Made Air Ducts and Air Connectors; current edition, including all revisions.

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience, and approved by manufacturer.
- B. Installer Qualifications: Company specializing in performing the type of work specified in this section, with minimum three years of documented experience.

1.05 REGULATORY REQUIREMENTS

- A. Construct ductwork to NFPA 90A standards.

1.06 FIELD CONDITIONS

- A. Do not install duct sealants when temperatures are less than those recommended by sealant manufacturers.
- B. Maintain temperatures within acceptable range during and after installation of duct sealants.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Galvanized Steel for Ducts: Hot-dipped galvanized steel sheet, ASTM A653/A653M FS Type B, with G90/Z275 coating.
- B. Joint Sealers and Sealants: Non-hardening, water resistant, mildew and mold resistant.
 - 1. Type: Heavy mastic or liquid used alone or with tape, suitable for joint configuration and compatible with substrates, and recommended by manufacturer for pressure class of ducts.
 - 2. VOC Content: Not more than 250 g/L, excluding water.
 - 3. Surface Burning Characteristics: Flame spread index of zero and smoke developed index of zero, when tested in accordance with ASTM E84.
- C. Hanger Rod: ASTM A36/A36M; steel, galvanized; threaded both ends, threaded one end, or continuously threaded.
- D. Ducts: Galvanized steel, unless otherwise indicated.
- E. Low Pressure Supply (Heating Systems): 2 inch w.g. pressure class, galvanized steel.
- F. Return and Relief: 1 inch w.g. pressure class, galvanized steel.

2.02 DUCTWORK FABRICATION

- A. Fabricate and support in accordance with SMACNA (DCS) and as indicated.
- B. No variation of duct configuration or size permitted except by written permission. Size round duct installed in place of rectangular ducts in accordance with ASHRAE (FUND) Handbook - Fundamentals.
- C. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.
- D. Construct T's, bends, and elbows with radius of not less than 1-1/2 times width of duct on centerline. Where not possible and where rectangular elbows must be used, provide air foil turning vanes of perforated metal with glass fiber insulation.
- E. Provide turning vanes of perforated metal with glass fiber insulation when acoustical lining is indicated.
- F. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.
- G. Fabricate continuously welded round and oval duct fittings in accordance with SMACNA (DCS).
- H. Where ducts are connected to exterior wall louvers and duct outlet is smaller than louver frame, provide blank-out panels sealing louver area around duct. Use same material as duct, painted black on exterior side; seal to louver frame and duct.

2.03 MANUFACTURED DUCTWORK AND FITTINGS

- A. Spiral Ducts: Round spiral lockseam duct with galvanized steel outer wall.
 - 1. Manufacture in accordance with SMACNA (DCS).

- B. Transverse Duct Connection System: SMACNA "E" rated rigidly class connection, interlocking angle and duct edge connection system with sealant, gasket, cleats, and corner clips in accordance with SMACNA (DCS).
- C. Round Duct Connection System: Interlocking duct connection system in accordance with SMACNA (DCS).

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install, support, and seal ducts in accordance with SMACNA (DCS).
- B. Install in accordance with manufacturer's instructions.
- C. During construction provide temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.
- D. Duct sizes indicated are inside clear dimensions. For lined ducts, maintain sizes inside lining.
- E. Duct sizes indicated shall be of sizes indicated. However, necessary changes in shape offsets or crossovers to clear piping, lighting, building construction obstructions, etc. shall be made without additional cost.
- F. Provide openings in ductwork where required to accommodate thermometers and controllers. Provide pilot tube openings where required for testing of systems, complete with metal can with spring device or screw to ensure against air leakage. Where openings are provided in insulated ductwork, install insulation material inside a metal ring.
- G. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.
- H. Use double nuts and lock washers on threaded rod supports.
- I. At exterior wall louvers, seal duct to louver frame and install blank-out panels.

END OF SECTION

**SECTION 23 33 00
AIR DUCT ACCESSORIES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Air turning devices/extractors.
- B. Flexible duct connections.
- C. Volume control dampers.
- D. Miscellaneous products:
 - 1. Internal strut end plugs.
 - 2. Duct opening closure film.

1.02 RELATED REQUIREMENTS

- A. Section 23 31 00 - HVAC Ducts and Casings.

1.03 REFERENCE STANDARDS

- A. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible; 2020.

1.04 SUBMITTALS

- A. Product Data: Provide for shop fabricated assemblies including volume control dampers and duct access doors. Include electrical characteristics and connection requirements.
- B. Shop Drawings: Indicate for shop fabricated assemblies including volume control dampers.
- C. Manufacturer's Installation Instructions: Provide instructions for fire dampers.
- D. Project Record Drawings: Record actual locations of access doors and test holes.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Protect dampers from damage to operating linkages and blades.

PART 2 PRODUCTS

2.01 AIR TURNING DEVICES/EXTRACTORS

- A. Multi-blade device with blades aligned in short dimension; steel construction; with individually adjustable blades, mounting straps.

2.02 DUCT TEST HOLES

- A. Temporary Test Holes: Cut or drill in ducts as required. Cap with neat patches, neoprene plugs, threaded plugs, or threaded or twist-on metal caps.
- B. Permanent Test Holes: Factory fabricated, air tight flanged fittings with screw cap. Provide extended neck fittings to clear insulation.

2.03 FLEXIBLE DUCT CONNECTIONS

- A. Fabricate in accordance with SMACNA (DCS) and as indicated.

- B. Flexible Duct Connections: Fabric crimped into metal edging strip.
 - 1. Fabric: UL listed fire-retardant neoprene coated woven glass fiber fabric to NFPA 90A, minimum density 30 oz per sq yd.
 - a. Net Fabric Width: Approximately 2 inches wide.

2.04 VOLUME CONTROL DAMPERS

- A. Manufacturers:
 - 1. Ruskin Company.
 - 2. Pottorff.
 - 3. Greenheck.
- B. Fabricate in accordance with SMACNA (DCS) and as indicated.
- C. Single Blade Dampers:
 - 1. Fabricate for duct sizes up to 6 by 30 inch.
 - 2. Blade: 24 gage, 0.0239 inch, minimum.
- D. Multi-Blade Damper: Fabricate of opposed blade pattern with maximum blade sizes 8 by 72 inch. Assemble center and edge crimped blades in prime coated or galvanized channel frame with suitable hardware.
 - 1. Blade: 18 gage, 0.0478 inch, minimum.
- E. End Bearings: Except in round ducts 12 inches and smaller, provide end bearings. On multiple blade dampers, provide oil-impregnated nylon, thermoplastic elastomer, or sintered bronze bearings.
- F. Quadrants:
 - 1. Provide locking, indicating quadrant regulators on single and multi-blade dampers.
 - 2. On insulated ducts mount quadrant regulators on stand-off mounting brackets, bases, or adapters.

2.05 MISCELLANEOUS PRODUCTS

- A. Internal Strut End Plugs: Combination end-mounting and sealing plugs for metal conduit used as internal reinforcement struts for metal ducts; plug crimped inside conduit with outside gasketed washer seal.
- B. Duct Opening Closure Film: Mold-resistant, self-adhesive film to keep debris out of ducts during construction.
 - 1. Thickness: 2 mils.
 - 2. High tack water based adhesive.
 - 3. UV stable light blue color.
 - 4. Elongation Before Break: 325 percent, minimum.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install accessories in accordance with manufacturer's instructions, NFPA 90A, and follow SMACNA (DCS). Refer to Section 23 31 00 for duct construction and pressure class.
- B. Provide duct test holes where indicated and required for testing and balancing purposes.

- C. At fans and motorized equipment associated with ducts, provide flexible duct connections immediately adjacent to the equipment.
- D. At equipment supported by vibration isolators, provide flexible duct connections immediately adjacent to the equipment.
- E. Provide balancing dampers at points on supply, return, and exhaust systems where branches are taken from larger ducts as required for air balancing. Install minimum 2 duct widths from duct take-off.
- F. Provide balancing dampers on duct take-off to diffusers, grilles, and registers, regardless of whether dampers are specified as part of the diffuser, grille, or register assembly.

END OF SECTION

SECTION 23 37 00
AIR OUTLETS AND INLETS

PART 1 GENERAL**1.01 SECTION INCLUDES**

- A. Diffusers.
 - 1. High Capacity Drum Louvers.
- B. Registers/grilles.
 - 1. Wall-mounted, exhaust and return register/grilles with filter.

1.02 REFERENCE STANDARDS

- A. AHRI 880 (I-P) - Performance Rating of Air Terminals; 2011 with Addendum 1.
- B. ASHRAE Std 70 - Method of Testing the Performance of Air Outlets and Inlets; 2006 (R2011).
- C. ASHRAE Std 130 - Methods of Testing Air Terminal Units; 2008 (R2014).

1.03 SUBMITTALS

- A. Product Data: Provide data for equipment required for this project. Review outlets and inlets as to size, finish, and type of mounting prior to submission. Submit schedule of outlets and inlets showing type, size, location, application, and noise level.

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

1.05 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS**2.01 HIGH CAPACITY SUPPLY GRILLE WITH ROTATING DRUM**

- A. Manufacturers:
 - 1. Price Industries HCD.
 - 2. Titus DL.
 - 3. Nailor.
- B. Description:
 - 1. High capacity drum louver.
- C. Construction:
 - 1. The outlets shall have steel frame construction, and extruded aluminum drum and vanes.
 - 2. The outlets shall consist of individually adjustable spread control vanes housed within a rotatable drum.
 - 3. The drum pivot mechanism shall incorporate a positive positioning detent device to hold field adjusted drum angles of up to thirty degrees off-center. Adjustable vanes shall pivot and maintain blade setting.

4. The outlet mounting frame shall be constructed of formed steel with welded, reinforced corners for added strength.
5. The mounting frame shall be supplied with countersunk screw holes for aesthetic appeal.

D. Paint Specification:

1. All components shall have a baked-on powder coat finish.
 - a. The paint finish must demonstrate no degradation when tested in accordance with ASTM D1308 (covered and spot immersion) and ASTM D4752 (MEK double rub) paint durability tests.
 - b. The paint film thickness shall be a minimum of 2.0 mils.
 - c. The finish shall have a hardness of 2H.
 - d. The finish shall withstand a minimum salt spray exposure of 500 hours with no measurable creep in accordance with ASTM D1654, and 1000 hours of exposure with no rusting or blistering as per ASTM D610 and ASTM D714.
 - e. The finish shall have an impact resistance of 80 inch-pounds.

E. Options:

1. Opposed Blade Damper:
 - a. The heavy duty, opposed blade balancing damper shall be constructed of a minimum 18 gauge coated, cold rolled steel. The damper frame corners shall overlap and be of welded construction for added strength.
 - b. The damper shall be operable from the register face.
 - c. The damper shall be supplied fitted with a face accessible screw-type blade locking mechanism.
2. Spiral Duct Mounting Frame:
 - a. The outlet shall be suitable for spiral duct mounting. The spiral duct frame shall be [galvanized steel] or [aluminum] construction.

2.02 WALL EXHAUST AND RETURN REGISTERS/GRILLES WITH FILTER

A. Manufacturers:

1. Price Industries 530FFL2.
2. Titus 350RFL2.
3. Nailor.

B. Type: Streamlined blades, 3/4 inch minimum depth, 3/4 inch maximum spacing, with 45° fixed deflection blades, blades parallel to the long dimension.

C. Frame: 1-1/4 inch margin with countersunk screw mounting.

D. Fabrication: Steel frames and blades, with factory baked enamel finish.

E. Color: To be selected by Architect/Engineer from manufacturer's standard range.

F. Filter: The mounting frame shall be designed to accept a standard 2-inch filter.

G. Fastening: The grille shall be supplied with a hinged-tab mechanism to allow removal of the grille from the filter frame. Hinge tab orientation shall be parallel to the long dimension.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Check location of outlets and inlets and make necessary adjustments in position to conform with architectural features, symmetry, and lighting arrangement.
- C. Install diffusers to ductwork with air tight connection.
- D. Provide balancing dampers on duct take-off to diffusers, and grilles and registers, despite whether dampers are specified as part of the diffuser, or grille and register assembly.

END OF SECTION

**SECTION 23 55 33
INDIRECT FIRED AIR UNITS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fuel fired packaged air units.

1.02 RELATED SECTIONS

- A. Section 23 31 00 - HVAC Ducts and Casings.
- B. Section 26 05 83 - Equipment Wiring: Electrical characteristics and wiring connections.

1.03 REFERENCES

- A. NFPA 54 - National Fuel Gas Code; National Fire Protection Association; 2006.
- B. NFPA 90A - Standard for the Installation of Air Conditioning and Ventilating Systems; National Fire Protection Association; 2002.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's literature and data indicating rated capacities, weights, accessories, electrical nameplate data, and wiring diagrams.
- C. Operation and Maintenance Data: Include manufacturer's descriptive literature, operating instructions, maintenance and repair data, and parts listing.
- D. Warranty: Submit manufacturers warranty and ensure forms have been filled out in Owner s name and registered with manufacturer.
- E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 60 00 - Product Requirements, for additional provisions.
 - 2. Extra Filters: One set for each unit.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

1.06 REGULATORY REQUIREMENTS

- A. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

1.07 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Provide ten year manufacturers warranty for heat exchangers.

PART 2 PRODUCTS

2.01 FUEL FIRED PACKAGED AIR UNITS

A. Manufacturers:

1. Greenheck; Model IGX.
2. Modine.
3. Reznor.

B. General:

1. Unit with Integral Indirect gas-fired Heating shall be fully assembled at the factory and consist of an insulated metal cabinet, curb assembly, outdoor air intake with aluminum mesh, filter assembly for intake air, sensors, motorized recirculation dampers, supply air blower assembly, and electrical control unit with all specified components and internal accessories factory installed and tested and prepared for single-point high voltage connection.

C. Cabinet:

1. Coating: Powder coated permatector coating. Coating is compliant for ASTM B117 2500 hour salt spray.
2. Materials: Formed, double wall insulated metal cabinet, fabricated to permit access to internal components for maintenance.
 - a. Outside casing: 18 gauge, galvanized (G90) steel meeting ASTM A653 for components that do not receive a painted finish. Pre-painted components as supplied by the factory shall have polyester urethane paint on 18 gauge G60 galvanized steel. Base rail is 12 gauge, galvanized (G90) steel.
 - b. Internal Assemblies: 24 gauge galvanized (G90) steel except for motor supports which shall be minimum 14 gauge galvanized (G90) steel.
3. Comply with NFPA 90A and NFPA 90B and erosion requirements of UL 181.
 - a. Materials: Fiberglass insulation. If insulation other than fiberglass is used, it must also meet the Fire Hazard Classification shown below.
 - 1) Thickness: 1 inch.
 - 2) Fire Hazard Classification: Maximum flame spread of 25 and smoke developed of 50, when tested in accordance with ASTM C 411.
 - 3) Location and application: Floor of each unit shall be insulated with either one half inch thick or 1 inch thick rigid fiberglass insulation, covered on one surface with integral aluminum foil.
4. Access panels: Unit shall be equipped with hinged access panels to provide easy access to all major components.
5. Supply Air blower assembly: Blower assembly consists of an electric motor and direct driven, double width, double inlet forward curve blower. Assembly shall be mounted on heavy gauge galvanized rails and further mounted on minimum 1.125 inch thick neoprene vibration isolators.
6. Control panel / connections: Unit shall have an electrical control center where all high and low voltage connections are made. Control center shall be constructed to permit single-point high voltage power supply connections.
7. Indirect Gas-Fired Furnace:
 - a. Shall be ETL Certified as a component of the unit.
 - b. Shall have an integral combustion gas blower.
 - c. Shall be ETL Certified for installation downstream of a cooling coil.

- d. Shall have fault sensors to provide fault conditions to optional digital controller or building controls.
- e. Shall have 4-pass tubular heat exchangers, constructed of type 409 stainless steel. Heat exchanger tubes shall be installed on the vest plate by means of swaged assembly, welded connections are not acceptable. Heat exchanger tubes shall be supported by a minimum of two fabricated assemblies that support the tubes and also permit expansion and contraction of the tubes.
- f. Heat exchanger shall have a ten year extended warranty.
- g. Furnace control shall be 32:1 electronic modulating.
- h. Shall be encased in a weather-tight metal housing with intake air vents. Large, metal lift-off or hinged door shall provide easy access to the enclosed vest plate, control circuitry, gas train, burner assembly and exhaust blower.
- i. Shall include a kit for Outdoor mounting with Vertical Stack venting.
- j. Motorized Recirculating Air Damper designed to permit 100% recirculation of exhaust air shall be factory installed. Damper shall be controlled by BMSControl.
- k. Sensors are considered to be part of various optional operational modes or device controllers and are to be factory supplied and installed.
- l. Curb Assembly: A curb assembly made of 14 gauge galvanized steel shall be provided by the factory for assembly and installation as part of this division. The curb assembly shall provide perimeter support of the entire unit and shall have duct adapters for supply and return air. Curb assembly shall enclose the underside of the unit and shall be sized to fit into a recess in the bottom of the unit. Contractor shall be responsible for coordinating with roofing contractor to ensure curb unit is properly flashed to provide protection against weather/moisture penetration. Contractor shall provide and install appropriate insulation for the curb assembly.

D. Blower:

1. Blower section construction, Supply Air: direct drive motor and blower shall be assembled onto a minimum 14 gauge galvanized steel platform and must have neoprene vibration isolation devices, minimum of 1 - 1/8 inches thick.
2. Blower assemblies: Shall be statically and dynamically balanced and designed for continuous operation at maximum rated fan speed and horsepower.
3. Centrifugal blower housing: Formed and reinforced steel panels to make curved scroll housing with shaped cutoff.
4. Forward curved blower (fan) wheels: Galvanized or aluminum construction with inlet flange and shallow blades curved forward in direction of airflow. Mechanically attached to shaft with set screws.
5. Blower section motor source quality control: Blower performance shall be factory tested for flow rate, pressure, power, air density, rotation speed and efficiency. Ratings are to be established in accordance with AMCA 210, "Laboratory Methods of Testing Fans for Rating".

E. Motors:

1. General: Blower motors greater than .75 horsepower shall be "NEMA Premium" unless otherwise indicated. Compliance with EPCAct minimum energy-efficiency standards for single speed ODP and TE enclosures is not acceptable. Motors shall be heavy-duty, permanently lubricated type to match the fan load and furnished at the specified voltage, phase and enclosure. Drives shall be sized for a minimum of 150% of driven horsepower and pulleys shall be fully machined cast-type, keyed and fully secured to the fan wheel and motor shafts. Electric

motors of ten horsepower or less shall be supplied with an adjustable drive pulley. Comply with requirements in Division 23 05 13, matched with fan load.

2. Motors shall be 60 cycle, 3 phase, 208 volt.
3. Provide with motor shaft grounding.

F. Unit Controls

1. The unit shall be constructed so that it can function as a stand-alone heating system controlled by factory-supplied controllers, thermostats and sensors or it can be operated as a heating system controlled by a Building Management System (BMS).
2. Factory installed BacNet IP card.
3. Unoccupied mode, used to enable the unit during unoccupied mode based on space temperature setpoint.
4. Variable Frequency Drive (VFD): Unit shall have factory installed variable frequency drive for modulation of the supply air blower assembly. The VFD shall be factory-programmed for unit-specific requirements and shall not require additional field programming to operate.
5. Sensors to be provided with the unit include:
 6. Heating Inlet Air Sensor.
 7. Dirty Filter Sensor.
 8. Space temperature sensor.
 9. Supply air temperature sensor.

G. Filters:

1. Unit shall have 2-inch thick MERV 8 disposable pleated filters located in the mixing box of the unit.
2. The outside air weatherhood shall contain 2-inch aluminum mesh intake filters.

H. Accessories:

1. Factory mounted and powered service outlet.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with NFPA 90A.
- B. Provide connection to electrical power systems; refer to Section 26 05 83.

3.02 FIELD QUALITY CONTROLS

- A. Manufacturer's Field Service: Engage a factory authorized service representative to inspect field assembled components and equipment installation, to include electrical and piping connections. Report results to A/E in writing. Inspection must include a complete startup checklist to include (as a minimum) the following: Completed Start-Up Checklists as found in manufacturer's IOM.

3.03 MANUFACTURER'S FIELD SERVICES

- A. Engage a factory authorized service representative to perform startup service. Clean entire unit, comb coil fins as necessary, and install clean filters. Measure and record electrical values for voltage and amperage.

3.04 DEMONSTRATION AND TRAINING

- A. Demonstrate operation to Owner's maintenance personnel.

- B. Engage a factory authorized service representative to train owner's maintenance personnel to adjust, operate and maintain the entire Make-Up Air unit.

END OF SECTION

SECTION 26 05 00
BASIC ELECTRICAL REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Basic Electrical Requirements and materials specifically applicable to Division 26 Sections.
Section includes:
1. Electrical Identification.
 2. Minor Demolition.
 3. Conductors and Devices.
 4. Raceways and Boxes.
 5. Supporting Devices.

1.02 REGULATORY REQUIREMENTS

- A. Conform to construction standards as adopted by the Illinois Community College Board to include:
1. International Building Code - 2018 Edition.
 2. National Electrical Code ANSI/NFPA 70 - 2020 Edition.
 3. Life Safety Code NFPA 101 - 2018 Edition.
 4. Fire Prevention and Safety - 41ILCS100.
- B. Conform to building codes as adopted by the local authority having jurisdiction, where applicable.
- C. Install electrical Work in accordance with the NECA Standard of Installation.

1.03 DELIVERY, STORAGE AND HANDLING

- A. Store and protect all materials as specified under the provisions of Section 01 60 00 and as specified herein.
- B. Deliver products to the project properly identified with names, model numbers, types, grades, compliance labels, and other information needed for identification.
- C. Ship products to the job site in their original packaging. Receive and store products in a suitable manner to prevent damage or deterioration. Keep equipment upright at all times.
- D. Investigate the spaces through which equipment must pass to reach its final destination.
Coordinate with the manufacturer to arrange delivery at the proper stage of construction and to provide shipping splits where necessary.

1.04 PROJECT/SITE CONDITIONS

- A. Install work in locations shown on Drawings, unless prevented by Project conditions. Drawings have omitted certain branch circuitry in areas for ease of reading. All branch circuitry is to be provided by Contractor.
- B. Prepare drawings showing proposed rearrangement of Work to meet Project conditions, including changes to Work specified in other Sections. Obtain permission from Architect/Engineer before proceeding as specified under modification procedures.

1.05 QUALITY ASSURANCE

- A. Provide Work as required for a complete and operational electrical installation.

- B. All products shall be designed, manufactured, and tested in accordance with industry standards. Standards, organizations, and their abbreviations as used hereafter, include the following:
1. American National Standards Institute, Inc (ANSI).
 2. American Society for Testing and Materials (ASTM).
 3. National Electrical Manufacturers Association (NEMA).
 4. Underwriters Laboratories, Inc. (UL).
- C. Install all Work in accordance with the NECA Standard of Installation.

1.06 SUBMITTALS

- A. Submit all requested items in Division 26 Sections under provisions of Section 01 30 00.

1.07 SUBSTITUTIONS

- A. Substitutions will be considered only as allowed within the provisions of Section 01 60 00.

1.08 PROJECT RECORD DOCUMENTS

- A. Cooperate and assist in the preparation of project record documents under the provisions of Section 01 78 00.

1.09 TRENCHING, FILL AND COMPACTION

- A. Provide trenching, fill and compaction for all work indicated on Drawings and specified in Division 26 sections.

1.10 PROJECT MANAGEMENT AND COORDINATION

- A. Proper project management and coordination is critical for a successful project. Manage and coordinate the Work with all other trades in accordance with Section 01 30 00 requirements. Reliance on the Drawings and Specifications only for exact project requirements is insufficient for proper coordination.

PART 2 PRODUCTS

2.01 WIRING METHODS

- A. All locations: Building wire in raceway.
- B. Use no wire smaller than 12 AWG for power and lighting circuits, and no smaller than 14 AWG for control wiring.
1. Use 10 AWG conductor for 20 ampere, 120 volt branch circuit home runs longer than 100 feet. Use minimum #10 AWG conductor wire in all the following locations:
 - a. All programmable panel branch circuits (larger where indicated).
 - b. All emergency lighting and exit branch circuits.

2.02 WIRE AND CABLE

- A. Manufacturers:
1. Okonite.
 2. Southwire.
 3. Collyer.
- B. Building Wire:

1. Feeders and Branch Circuits Larger Than 6 AWG: Copper, stranded conductor, 600 volt insulation.
2. Feeders and Branch Circuits 6 AWG and Smaller: Copper conductor, 600 volt insulation. 6 and 8 AWG, stranded conductor; smaller than 8 AWG, stranded conductor (solid for device terminations).
3. Control Circuits: Copper, stranded conductor, 600 volt insulation.
4. Use 10 AWG conductors for 20 ampere, 120 volt branch circuits longer than 75 feet.
5. Use conductor not smaller than 12 AWG for power and lighting circuits.
6. Use conductor not smaller than 16 AWG for control circuits.

C. Locations:

1. Concealed Dry Interior Locations: Use only building wire with Type THHN insulation in raceway.
2. Exposed Dry Interior Locations: Use only building wire with Type THHN insulation in raceway.
3. Above Accessible Ceilings: Use only building wire with Type THHN insulation in raceway.
4. Wet or Damp Interior Locations: Use only building wire with Type THWN insulation in raceway.
5. Exterior Locations: Use only building wire with Type XHHW insulation in raceway.

2.03 WIRING DEVICES AND WALL PLATES

A. GFCI Receptacle: Nema 5-20R, duplex, GFCI, specification grade.

1. Hubbell Model GF-5362.
2. Slater Model SIR-20-F.
3. Eagle Model 647.
4. Color: Ivory.

B. Weatherproof die cast cover.

1. Intermatic Model WP1030MC (Two-Gang).
2. Approved Equal.

2.04 RACEWAY REQUIREMENTS

A. Use only specified raceway in the following locations:

1. Branch Circuits and Feeders:
 - a. Concealed Dry Interior Locations: Electrical metallic tubing.
 - b. Exposed Dry Interior Finished Locations: Electrical metallic tubing.
 - c. Exposed Dry Interior Unfinished Locations: Electrical metallic tubing.
 - d. All other locations: Galvanized Rigid Metallic Conduit.

B. Size raceways for conductor type installed.

1. Minimum Size Conduit Homerun to Panelboard: 3/4-inch.

2.05 METALLIC CONDUIT AND FITTINGS

A. Conduit:

1. Rigid Steel Conduit: ANSI C80.1.
2. Electrical metallic tubing: ANSI C80.3.
3. Flexible Conduit: UL 1, zinc-coated steel.
 - a. Liquidtight Flexible Conduit: UL360. Fittings shall be specifically approved for use with this raceway.

- B. Conduit Fittings:
 - 1. Metal Fittings and Conduit Bodies: NEMA FB 1.
 - a. EMT fittings: Use set-screw indentor-type fittings.

2.06 CONDUIT HANGERS

- A. Manufacturers:
 - 1. Minerrallac Electric Company.
 - 2. Substitutions: Or Approved Equal.
- B. Description:
 - 1. Standard conduit hanger, zinc-plated steel with bolts.
 - 2. Threaded rod and hardware: Plated finish, size and length as required for loading and conditions.

2.07 BEAM CLAMPS

- A. Manufacturers:
 - 1. Appleton.
 - 2. Midwest.
 - 3. Raco.
- B. Description: Malleable beam clamp, zinc plated steel.

2.08 ELECTRICAL BOXES

- A. Manufacturers:
 - 1. Raco.
 - 2. Steel City.
 - 3. Appleton.
 - 4. Substitutions: Or Approved Equal.
- B. Sheet Metal Outlet Boxes: ANSI/NEMA OS 1, galvanized steel, suitable for installation in masonry:
- C. Equipment Support Boxes: Rated for weight of equipment supported; include 2 inch male fixture studs where required.
- D. Wet Location Outlet Boxes: Cast aluminum: Cast alloy, deep type, gasket cover, threaded hubs.

2.09 PENETRATION SEALANTS

- A. Fire-rated assemblies: Provide firestopping of all penetrations made by Work.
- B. Thermal and Moisture Protection: Provide thermal and moisture protection made by Work.

2.10 NAMEPLATES AND LABELS

- A. Nameplates: Engraved three-layer laminated plastic, black letters on white background.
- B. Locations:
 - 1. Each electrical distribution and control equipment enclosure.
- C. Letter Size:
 - 1. Use 1/8 inch letters for identifying individual equipment and loads.
 - 2. Use 1/4 inch letters for identifying grouped equipment and loads.

- D. Labels: Embossed adhesive tape, with 3/16 inch white letters on a black background. Use only for identification of individual wall switches and receptacles and control device stations.

2.11 WIRE AND CABLE MARKERS

- A. Manufacturers:
 1. Brady Model PCPS.
 2. Panduit Model PCM.
 3. T & B Model WM.
- B. Description: Cloth type wire markers.
- C. Locations: Each conductor at panelboard gutters, pull boxes, and each load connection.
- D. Legend:
 1. Power and Lighting Circuits: Branch circuit or feeder number indicated on drawings.

PART 3 EXECUTION

3.01 EXAMINATION AND PREPARATION

- A. Demolition Drawings are based on casual field observation and are intended to identify the limits of the construction site. Remove all electrical systems in their entirety in proper sequence with the Work.
- B. Disconnect electrical systems in walls, floors, and ceilings for removal.
- C. Provide temporary wiring and connections to maintain existing systems in service during construction. When work must be performed on energized equipment or circuits, use personnel experienced in such operations.
- D. Beginning of demolition means installer accepts existing conditions.
- E. Verify that supporting surfaces are ready to receive work.
- F. Electrical boxes are shown on Drawings, in approximate locations, unless dimensioned.
 1. Obtain verification from Architect/Engineer for locations of outlets throughout prior to rough-in.
- G. Degrease and clean surfaces to receive wire markers.
- H. Verify that interior of building is physically protected from weather.
- I. Verify that mechanical work which is likely to injure conductors has been completed.
- J. Completely and thoroughly swab raceway system before installing conductors.

3.02 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK

- A. Remove all existing electrical installations to accommodate new construction.
- B. Remove abandoned wiring to source of supply.
- C. Remove exposed abandoned conduit, including abandoned conduit above accessible ceiling finishes. Cut conduit flush with walls and floors, and patch surfaces.
- D. Repair adjacent construction and finishes damaged during demolition and extension work.

3.03 APPLICATION

- A. Install nameplate and label parallel to equipment lines.
- B. Secure nameplate to equipment front using screws.
- C. Secure nameplates to inside surface of door on panelboard that is recessed in finished locations.
- D. Identify underground conduits using underground warning tape. Install one tape per trench at 3 inches below finished grade.
- E. Neatly train and secure wiring inside boxes, equipment, and panelboards.
- F. Route wire and cable as required to meet project conditions.
 - 1. Wire and cable routing indicated is approximate unless dimensioned.
 - 2. Where wire and cable destination is indicated and routing is not shown, determine exact routing and lengths required.
- G. Pull all conductors into raceway at same time.
- H. Protect exposed cable from damage.
- I. Neatly train and lace wiring inside boxes, equipment and panelboards.
- J. Support cables above accessible ceilings to keep them from resting on ceiling tiles.
- K. Make splices, taps, and terminations to carry full ampacity of conductors without perceptible temperature rise.
- L. Provide anchors, fasteners, and supports in accordance with NECA "Standard of Installation".
- M. Do not fasten supports to pipes, ducts, mechanical equipment, and conduit.
- N. Do not use powder-actuated anchors.
- O. Do not drill or cut structural members.
- P. Fabricate supports from structural steel or steel channel. Rigidly weld members or use hexagon head bolts to present neat appearance with adequate strength and rigidity. Use spring lock washers under all nuts.
- Q. Install surface-mounted cabinets and panelboards with minimum of four anchors.
- R. Terminate spare conductors with electrical tape.

END OF SECTION

SECTION 26 05 83 WIRING CONNECTIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Electrical connections to equipment and devices not an integral part of the electrical distribution system.

1.02 RELATED REQUIREMENTS

- A. Section 26 05 00 - Basic Electrical Requirements

1.03 REFERENCE STANDARDS

- A. NEMA WD 1 - General Color Requirements for Wiring Devices; 1999 (R 2010).

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Provide conduit rough-in and electrical connection to powered equipment and devices identified in the Project Manual and on the Drawings. Refer specifically, but not limited to, these Specification Sections for further information:
 - 1. Section 23 09 13 - Instrumentation and Control Devices for HVAC.
 - 2. Section 23 09 23 - Direct-Digital Control System for HVAC.
 - 3. Section 23 55 33 - Indirect Fired Air Units
 - 4. Section 26 05 00 - Basic Electrical Requirements
- B. Coordination: Determine connection locations and requirements for furniture, equipment and devices furnished or provided under other sections.
 - 1. Do not rely solely on the Drawings and Project Manual for execution of the Work of this Section.
 - 2. Obtain and review shop drawings, product data, manufacturer's wiring diagrams, and manufacturer's instructions.
 - 3. Include necessary field evaluation time to inspect connection requirements.
 - 4. Coordinate with other trades to determine exact rough-in requirements.
- C. Sequencing:
 - 1. Install rough-in of electrical connections before installation of furniture and equipment is required.
 - 2. Make electrical connections before required start-up of equipment.

1.05 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Products: Listed, classified, and labeled as suitable for the purpose intended.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that equipment is ready for electrical connection, wiring, and energization.

3.02 ELECTRICAL CONNECTIONS

- A. Make electrical connections in accordance with equipment manufacturer's instructions.
- B. Make conduit connections to equipment using flexible conduit. Use liquidtight flexible conduit with watertight connectors in damp or wet locations.
- C. Connect heat producing equipment using wire and cable with insulation suitable for temperatures encountered.
- D. Provide receptacle outlet to accommodate connection with attachment plug.
- E. Provide cord and cap where field-supplied attachment plug is required.
- F. Install suitable strain-relief clamps and fittings for cord connections at outlet boxes and equipment connection boxes.
- G. Install disconnect switches, controllers, control stations, and control devices to complete equipment wiring requirements.
- H. Install terminal block jumpers to complete equipment wiring requirements.
- I. Install interconnecting conduit and wiring between devices and equipment to complete equipment wiring requirements.

END OF SECTION

**SECTION 28 46 00
FIRE DETECTION AND ALARM**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Demolition of duct detectors and wiring at unit MAU-3
- B. .Provide new duct detector and area detector at unit MAU-3.
- C. Provide fire safety control function - fan shut down.
- D. Maintenance of fire alarm system under contract for specified warranty period.

1.02 REFERENCE STANDARDS

- A. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines; current edition.
- B. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- C. NFPA 76 - Standard for the Fire Protection of Telecommunications Facilities; 2016.
- D. NFPA 101 - Life Safety Code; 2015.
- E. NFPA 601 - Standard for Security Services in Fire Loss Prevention; 2015.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Evidence of designer qualifications.
- C. Shop Drawings: Submit all information required for plan review and permitting by authorities having jurisdiction, including but not limited to floor plans, riser diagrams, and description of operation:
 - 1. Shop drawing submitted to Architect/Engineer shall be approved and signed by the authority having jurisdiction.
 - 2. Submit field wiring color-coding legend.
 - 3. Indicate existing wiring arrangements and locations of devices and wiring routing.
 - 4. Copy (if any) of list of data required by authority having jurisdiction.
 - 5. NFPA 72 "Record of Completion", filled out to the extent known at the time.
 - 6. Clear and concise description of operation, with input/output matrix similar to that shown in NFPA 72 Appendix A-7-5-2.2(9), and complete listing of software required.
 - 7. System zone boundaries and interfaces to fire safety systems.
 - 8. Location of all components, circuits, and raceways; mark components with identifiers used in control unit programming.
 - 9. Circuit layouts; number, size, and type of raceways and conductors; conduit fill calculations; spare capacity calculations; notification appliance circuit voltage drop calculations.
 - 10. List of all devices on each signaling line circuit, with spare capacity indicated.
 - 11. Manufacturer's detailed data sheet for each component, including wiring diagrams, installation instructions, circuit length limitations, dimensions, ratings, layouts and complete catalog numbers.

- a. Submit UL listings with cross-listing substantiation for each system component clearly marked.
 - 12. Description of power supplies; if secondary power is by battery include calculations demonstrating adequate battery power.
 - 13. Certification by either the manufacturer of the control unit or by the manufacturer of each other component that the components are compatible with the control unit.
 - 14. Certification by the manufacturer of the control unit that the system design complies with the contract documents.
 - 15. Certification by Contractor that the system design complies with the contract documents.
 - 16. Do not show existing components to be removed.
- D. Evidence of installer qualifications.
- E. Evidence of instructor qualifications; training lesson plan outline.
- F. Evidence of maintenance contractor qualifications, if different from installer.
- G. Inspection and Test Reports:
- 1. Submit inspection and test plan prior to closeout demonstration.
 - 2. Submit documentation of satisfactory inspections and tests.
 - 3. Submit NFPA 72 "Inspection and Test Form," filled out.
- H. Operating and Maintenance Data: See Section 01 78 00 for additional requirements; revise and resubmit until acceptable; have one set available during closeout demonstration:
- 1. Complete set of specified design documents, as approved by authority having jurisdiction.
 - 2. Additional printed set of project record documents and closeout documents, bound or filed in same manuals.
 - 3. Contact information for firm that will be providing contract maintenance and trouble call-back service.
 - 4. List of recommended spare parts, tools, and instruments for testing.
 - 5. Replacement parts list with current prices, and source of supply.
 - 6. Detailed troubleshooting guide and large scale input/output matrix.
 - 7. Preventive maintenance, inspection, and testing schedule complying with NFPA 72; provide printed copy and computer format acceptable to Owner.
 - 8. Detailed but easy to read explanation of procedures to be taken by non-technical administrative personnel in the event of system trouble, when routine testing is being conducted, for fire drills, and when entering into contracts for remodeling.
- I. Project Record Documents: See Section 01 78 00 for additional requirements; have one set available during closeout demonstration:
- 1. Complete set of floor plans showing actual installed locations of components, conduit, and zones.
 - 2. "As installed" wiring and schematic diagrams, with final terminal identifications.
 - 3. "As programmed" operating sequences, including control events by device, updated input/output chart, and voice messages by event.
- J. Closeout Documents:
- 1. NFPA 72 "Record of Completion", filled out completely and signed by installer and authorized representative of authority having jurisdiction.

1.04 QUALITY ASSURANCE

- A. Designer: Qualified employee of fire alarm control panel manufacturer, Contractor, or installer, with experience designing fire alarm systems in the jurisdictional area of the authorities having jurisdiction.
 - 1. Delegated Engineering Responsibility: Provide design services necessary to modify initiating device circuits, notification circuits and affected control panels and power supplies. Provide all necessary drawings and specification to local authority having jurisdiction for approval to modify this existing system as intended.
- B. Installer: Qualified firm with minimum 5 years documented experience installing fire alarm systems of the specified type and providing contract maintenance service as a regular part of their business.
 - 1. Authorized representative of control unit manufacturer; submit manufacturer's certification that installer is authorized; include name and title of manufacturer's representative making certification.
 - 2. Installer Personnel: At least 2 years of experience installing fire alarm systems.
 - 3. Supervisor: NICET level III or IV (3 or 4) certified fire alarm technician; furnish name and address.
- C. Maintenance Contractor: Same entity as installer or different entity with specified qualifications.
- D. Instructor Qualifications: Experienced in technical instruction, understanding fire alarm theory, and able to provide the required training; trained by fire alarm control unit manufacturer.
- E. Qualified personnel includes those persons that are:
 - 1. Factory trained and certified; OR
 - 2. NICET Level III or IV (3 or 4) Fire Alarm certified; OR
 - 3. International Municipal Signal Association Fire Alarm certified; OR
 - 4. Certified by state (Illinois Department of Professional Regulation); OR
 - 5. Trained, qualified, and employed by an organization listed by a national testing laboratory.

1.05 EXISTING CONDITIONS

- A. The existing fire alarm system control panel is an Edwards Addressible System.
 - 1. Provide new equipment compatible with existing devices and system at site.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 FIRE ALARM SYSTEM

- A. Fire Alarm System: Provide modifications and extensions to the existing automatic fire detection and alarm system:
 - 1. Provide all components necessary, regardless of whether shown in the contract documents or not.
 - 2. Protected Premises: Areas denoted on the drawings.
 - 3. Comply with the following; where requirements conflict, order of precedence of requirements is as listed:
 - a. ADA Standards.

- b. The requirements of the local authority having jurisdiction which is City of ***.
 - c. Applicable local codes.
 - d. The contract documents (drawings and specifications).
 - e. NFPA 72; where the word "should" is used consider that provision mandatory; where conflicts between requirements require deviation from NFPA 72, identify deviations clearly on design documents.
4. Evacuation Alarm: Single smoke zone; general evacuation of entire premises (existing).
 5. Zoning: Point addressable system with initiating devices being individually zoned.
 6. Existing Control Panel: Make modifications to the existing panel: relocate fan shut down control function.
- B. Supervising Stations and Fire Department Connections:
1. Existing connections to remain.
- C. Circuits:
1. Initiating Device Circuits (IDC): Class B, Style A.
 2. Signaling Line Circuits (SLC) Within Single Building: Class B, Style 0.5.
 3. Notification Appliance Circuits (NAC): Class B, Style W.
- D. Power Sources:
1. Primary: Dedicated branch circuits of the facility power distribution system.
 2. Secondary: Storage batteries.
 3. Capacity: Sufficient to operate entire system for period specified by NFPA 72.
 4. Each Computer System: Provide uninterruptible power supply (UPS).

2.03 EXISTING COMPONENTS

- A. Existing Fire Alarm System: Remove existing components indicated and incorporate remaining components into new system, under warranty as if they were new; do not take existing portions of system out of service until new portions are fully operational, tested, and connected to existing system.
- B. Clearly label components that are "Not In Service."
- C. Remove unused existing components and materials from site and dispose of properly.

2.04 FIRE SAFETY SYSTEMS INTERFACES

- A. Supervision: Provide supervisory signals in accordance with NFPA 72 for the following:
1. Existing to remain,
- B. Alarm: Provide alarm initiation in accordance with NFPA 72 for the following:
1. Existing to remain. Modify MAU-3 fan shut down fire control function. Existing.

2.05 COMPONENTS

- A. General:
1. Provide flush mounted units where installed in finish areas; in unfinished areas, surface mounted unit are acceptable.
 2. Provide legible, permanent labels for each control device, using identification used in operation and maintenance data.

- B. Fire Alarm Power Supplies, Initiating Devices, and Notification Appliances: Analog, addressable type; listed by Underwriters Laboratories as suitable for the purpose intended.
- C. Initiating Devices:
1. Smoke Detectors: Addressable photoelectric smoke detector compatible with control panel. Each sensor shall be capable of being set at four sensitivity settings. Velocity rated to match air flow.
 - a. Automatic and manual functional sensitivity and performance tests shall be possible without the need for generating smoke.
 - b. Sensor shall have two LED visual indicators providing local 360 degree visibility of operating status and alarm indication. The LED shall pulse periodically indicating the sensor is receiving power and communication is being supplied.
 - c. Each sensor shall allow for the setting of two different sensitivity levels. These two levels shall be capable of being programmed with different sensitivities for occupied and unoccupied mode. This feature shall also incorporate programmable weekend days, where the sensor remain at an unoccupied sensitivity level all day.
 - d. Each sensor screen and cover shall be easily removable for field cleaning. Wire connections shall be made by clamping plate and screw.
 - e. Detector shall be a two-piece head and base unit.
 2. Duct Mounted Smoke Detector: Addressable/Analog photoelectric type, duct sampling tubes extending width of duct, in duct-mounted housing compatible with control panel and air stream velocities. Fan control shall not be hard wired through duct detector. Fan shutdown shall be completed by fan shutdown relay.
 - 3.
- D. Circuit Conductors: Copper; provide 200 feet extra; color code and label.

PART 3 EXECUTION

3.01 EXAMINATION AND PREPARATION

- A. Field inspect existing fire alarm system installation to determine all required interface components necessary for fire alarm system replacement and relocation.

3.02 INSTALLATION

- A. Install in accordance with applicable codes, NFPA 72, NFPA 70, and the contract documents.
- B. Install fire alarm system in accordance with manufacturer's instructions.
- C. Conceal all wiring, conduit, boxes, and supports where installed in finished areas.
- D. Obtain Owner's approval of locations of devices, before installation.
- E. Install instruction cards and labels.

3.03 INSPECTION AND TESTING FOR COMPLETION

- A. Notify Owner 7 days prior to beginning completion inspections and tests.
- B. Notify authorities having jurisdiction and comply with their requirements for scheduling inspections and tests and for observation by their personnel.

- C. Provide the services of the installer's supervisor or person with equivalent qualifications to supervise inspection and testing, correction, and adjustments.
- D. Prepare for testing by ensuring that all work is complete and correct; perform preliminary tests as required.
- E. Provide all tools, software, and supplies required to accomplish inspection and testing.
- F. Perform inspection and testing in accordance with NFPA 72 and requirements of local authorities; document each inspection and test.

END OF SECTION

**SECTION 31 10 00
SITE CLEARING****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Earth stripping and stockpiling.
- B. Repair and restoration.
- C. Debris removal.

1.02 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Site Plan:
 - 1. Indicate vegetation removal limits.
 - 2. Indicate areas for temporary construction and field offices.
- C. Clearing Firm Qualification Statement: Documentation of specialized experience.
- D. Photographs: Photographic documentation of existing vegetation.

1.03 QUALITY ASSURANCE

- A. Clearing Firm Qualifications: Company specializing in performing work of type specified and with at least five years of documented experience.

1.04 MATERIALS

- A. Sedimentation Barrier: See Section 01 57 13 - Temporary Erosion and Sediment Control.

PART 3 EXECUTION**2.01 EXAMINATION**

- A. Comply with additional requirements specified in Section 01 70 00 - Execution and Closeout Requirements.
- B. Identify potential runoff areas.
- C. Construction Fencing: See Section 01 50 00 - Temporary Facilities and Controls.
- D. Identify preexisting debris, junk, and trash on-site.

2.02 PREPARATION

- A. Coordinate work with utility companies; notify before starting work and comply with local requirements; obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Protect existing structures and other elements that are to remain.

- E. Install sedimentation barrier according to Section 01 57 13 - Temporary Erosion and Sediment Control.
- F. Develop dust remediation controls and methods. Do not use water if that results in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
- G. Remove preexisting debris, junk, and trash on-site.

2.03 EARTH STRIPPING AND STOCKPILING

- A. Stripping:
 - 1. Cut sod into portable sections for undamaged removal.
 - 2. Remove topsoil in areas required to permit installation of new work:
 - a. 4 inches (10 cm) deep, minimum.
- B. Stockpiling:
 - 1. Place sod in identified areas allowed by Owner.
 - 2. Place topsoil in identified areas allowed by Owner:
 - a. Pile depth not to exceed 8 feet.
 - b. Protect piles from erosion.

2.04 REPAIR AND RESTORATION

- A. Remaining Existing Facilities, Utilities, and Site Features: If damaged due to this work, repair or replace to original condition.
- B. Vegetation: Replace damaged or destroyed vegetation not identified for removal at no cost to Owner:

2.05 DEBRIS REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and windblown debris from public and private lands.

2.06 CLEANING

- A. See Section 01 70 00 - Execution and Closeout Requirements for additional requirements.
- B. Remove unused stockpiled subsoil. Grade stockpile area to prevent standing water.
- C. Leave site clean and ready to receive work.

END OF SECTION

**SECTION 31 22 00
GRADING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Rough grading.
- B. Fine grading.

1.02 RELATED REQUIREMENTS

- A. Section 31 10 00 - Site Clearing.
- B. Section 31 23 16 - Excavation.
- C. Section 31 23 23 - Fill.

1.03 REFERENCE STANDARDS

- A. 29 CFR 1910.266 - Logging Operations; Current Edition.

1.04 FIELD CONDITIONS

- A. Ambient Conditions: Terminate work during hazardous environmental conditions in accordance with 29 CFR 1910.266.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Fill Materials: See Section 31 23 23.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify survey bench mark and intended elevations for grading areas are as indicated.
- B. Verify the absence of standing or ponding water.
- C. Verify limits of work areas.

3.02 PREPARATION

- A. Identify required lines, levels, contours, and datum.
- B. Stake and flag locations of known utilities.
 - 1. Contact Joint Utility Locating Information for Excavators (JULIE 800-892-0123) before start of excavating work to ensure that existing utilities on the property are located and properly protected.
- C. Locate, identify, and protect above- and below-grade utilities to remain.
- D. Provide temporary means and methods to remove standing or ponding water from areas prior to grading.
- E. Protect site features to remain.

- F. Remove topsoil in accordance with Section 31 10 00.
- G. Excavate materials in accordance with Section 31 23 16.
- H. Perform filling and backfilling in accordance with Section 31 23 23.

3.03 ROUGH GRADING

- A. Excavate and fill subgrade material to elevations indicated on plans.
- B. Replace displaced subgrade in accordance with Section 31 23 23.
- C. Remove and replace unsuitable materials with specified fill.
- D. See Section 31 23 16 for stockpiling procedures.

3.04 FINE GRADING

- A. Scrape and spread subgrade material uniformly smooth and without disruptions.
- B. Slopes: Transition smoothly to adjacent areas.
- C. See Section 31 23 23 for final compaction.

3.05 TOLERANCES

- A. Top Surface: Plus or minus 1/2 inch.

3.06 CLEANING

- A. See Section 01 70 00 - Execution and Closeout Requirements for additional requirements.
- B. Remove unused stockpiled subsoil. Grade stockpile area to prevent standing water.
- C. Leave site clean and raked, ready to receive work.

END OF SECTION

SECTION 31 23 16 EXCAVATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Excavating for slabs-on-grade.

1.02 RELATED REQUIREMENTS

- A. Section 01 70 00 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring. General requirements for dewatering of excavations and water control.
- B. Section 02 41 00 - Demolition: Shoring and underpinning existing structures.
- C. Section 31 22 00 - Grading: Grading.
- D. Section 31 23 23 - Fill: Fill materials, backfilling, and compacting.

1.03 SEQUENCING AND SCHEDULING

- A. Schedule, sequence and coordinate the work of this section, and prior and subsequent portions of the work, in accordance with the requirements of Section 01 40 00 - Quality Requirements.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that survey bench mark and intended elevations for the work are as indicated.

3.02 PREPARATION

- A. Identify required lines, levels, contours, and datum locations.
- B. Locate, identify, and protect utilities that remain and protect from damage.
- C. Protect bench marks, survey control points, and existing structures from excavating equipment and vehicular traffic.
- D. Protect plants, lawns, and other features to remain.
- E. Grade top perimeter of excavation to prevent surface water from draining into excavation. Provide temporary means and methods, as required, to maintain surface water diversion until no longer needed, or as directed by Architect/Engineer.

3.03 EXCAVATING

- A. Excavate to accommodate exterior slab-on-grade.
 - 1. Excavate to the specified elevations.
 - 2. Excavate to the length and width required to safely install, adjust, and remove any forms, bracing, or supports necessary for the installation of the work.

- 3. Hand trim excavations. Remove loose matter.
- B. Notify Architect/Engineer of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- C. Provide temporary means and methods, as required, to remove all water from excavations until directed by Architect/Engineer. Remove and replace soils deemed suitable by classification and which are excessively moist due to lack of dewatering or surface water control.

3.04 SUBGRADE PREPARATION

- A. See Section 31 23 23 for subgrade preparation at general excavations.

3.05 FILLING AND BACKFILLING

- A. Do not fill or backfill until all debris, water, unsatisfactory soil materials, obstructions, and deleterious materials have been removed from excavation.
- B. See Section 31 23 23 for fill, backfill, and compaction requirements at general excavations.
- C. See Section 31 22 00 for rough and fine grading.

3.06 REPAIR

- A. Correct areas that are over-excavated and load-bearing surfaces that are disturbed; see Section 31 23 23.

3.07 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for general requirements for field inspection and testing.

3.08 CLEANING

- A. Remove excess excavated material from site.

3.09 PROTECTION

- A. Divert surface flow from rains or water discharges from the excavation.
- B. Prevent displacement of banks and keep loose soil from falling into excavation; maintain soil stability.
- C. Protect open excavations from rainfall, runoff, freezing groundwater, or excessive drying so as to maintain foundation subgrade in satisfactory, undisturbed condition.
- D. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.
- E. Keep excavations free of standing water and completely free of water during concrete placement.

END OF SECTION

SECTION 31 23 23 FILL

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Filling, backfilling, and compacting for slabs-on-grade.

1.02 RELATED REQUIREMENTS

- A. Section 01 57 13 - Temporary Erosion and Sediment Control: Slope protection and erosion control.
- B. Section 03 30 00 - Cast-in-Place Concrete: Concrete slabs-on-grade.
- C. Section 31 10 00 - Site Clearing: Sod removal.
- D. Section 31 22 00 - Grading: Site grading.
- E. Section 31 23 16 - Excavation: Removal and handling of soil to be re-used.

1.03 DEFINITIONS

- A. Finish Grade Elevations: Match and restore existing grades.
- B. Subgrade Elevations: 6 inches below finish grade elevations indicated on Drawings, unless otherwise indicated on the Drawings.

1.04 REFERENCE STANDARDS

- A. SSRBC - Standard Specifications for Road and Bridge Construction; adopted by the Illinois Department of Transportation on January 1, 2012, including applicable current Supplemental Specifications and Special Provisions.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. When necessary, store materials on site in advance of need.
- B. When fill materials need to be stored on site, locate stockpiles where designated by Owner.
 - 1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
 - 2. Prevent contamination.
 - 3. Protect stockpiles from erosion and deterioration of materials.

PART 2 PRODUCTS

2.01 FILL MATERIALS

- A. General Fill: Subsoil excavated on-site.
 - 1. Graded.
 - 2. Free of lumps larger than 3 inches, rocks larger than 2 inches, and debris, waste, frozen materials, vegetable and other deleterious matter.
- B. Structural Fill: Subsoil excavated on-site.
 - 1. Graded.

2. Free of lumps larger than 3 inches, rocks larger than 2 inches, and debris, waste frozen materials, vegetabel and other deleterious matter.

C. Granular Fill: Crushed stone conforming to SSRBC; CA-6.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that survey bench marks and intended elevations for the Work are as indicated.

B. Identify required lines, levels, contours, and datum locations.

C. See Section 31 22 00 for additional requirements.

D. Verify areas to be filled are not compromised with surface or ground water.

3.02 PREPARATION

A. Cut out soft areas of subgrade not capable of compaction in place. Backfill with general fill.

B. Compact subgrade to density equal to or greater than requirements for subsequent fill material.

C. Until ready to fill, maintain excavations and prevent loose soil from falling into excavation.

3.03 FILLING

A. Fill to contours and elevations indicated using unfrozen materials.

B. Fill up to subgrade elevations unless otherwise indicated.

C. Employ a placement method that does not disturb or damage other work.

D. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.

E. Maintain optimum moisture content of fill materials to attain required compaction density.

F. Granular Fill: Place and compact materials in equal continuous layers not exceeding 6 inches compacted depth.

G. Soil Fill: Place and compact material in equal continuous layers not exceeding 8 inches compacted depth.

H. Slope grade away from building minimum 2 inches in 10 feet, unless noted otherwise. Make gradual grade changes. Blend slope into level areas.

I. Correct areas that are over-excavated.

1. Load-bearing foundation surfaces: Use structural fill, flush to required elevation, compacted to 98 percent of maximum dry density.

2. Other areas: Use general fill, flush to required elevation, compacted to minimum 97 percent of maximum dry density.

J. Compaction Density Unless Otherwise Specified or Indicated:

1. Under slabs-on-grade and similar construction: 95 percent of maximum dry density.

2. At other locations: 90 percent of maximum dry density.

- K. Maintain temporary means and methods, as required, to remove all water while fill is being placed as required, or until directed by the Architect/Engineer. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack of dewatering or surface water control.

3.04 FILL AT SPECIFIC LOCATIONS

A. At Lawn Areas:

1. Use general fill.
2. Fill up to 6 inches below finish grade elevations.
3. Compact to 90 percent of maximum dry density.

B. Under Exterior Slabs-On-Grade :

1. Compact subsoil to 95 percent of its maximum dry density before placing fill.
2. Use granular fill.
3. Fill up to 6 inches below finish paving elevation, unless indicated otherwise on the Drawings.
4. Compact to 95 percent of maximum dry density.

3.05 TOLERANCES

A. Top Surface of General Filling: Plus or minus 1 inch from required elevations.

B. Top Surface of Filling Under Paved Areas: Plus or minus 1 inch from required elevations.

3.06 CLEANING

A. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

END OF SECTION

**SECTION 32 15 00
AGGREGATE SURFACING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Crushed stone surfacing.

1.02 RELATED REQUIREMENTS

- A. Section 31 10 00 - Site Clearing: Removal of turf and topsoil.
- B. Section 31 22 00 - Grading: Preparation of subbase.
- C. Section 31 23 16 - Excavation: Granular fill under slabs-on-grade.
- D. Section 31 23 23 - Fill: Earth fill and backfill.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Crushed Stone Surfacing: Pit run, washed stone; free of shale, clay, friable material, and debris. Match size and type of stone used for existing maintenance strips adjacent to building and to generator slab-on-grade.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that subgrade has been prepared correctly, is smooth, and is at proper grade and level.
- B. Do not begin work until subgrade is correct.

3.02 INSTALLATION

- A. Install aggregate base course according to surface reinforcement manufacturer's recommendations.
- B. Install aggregate surfacing in accordance with manufacturer's instructions.

3.03 CLEANING

- A. Remove unused or stockpiled fill.
- B. Clean adjacent surfaces of excess sand, gravel, soil, and debris. Sweep broom clean.

END OF SECTION



CONTRACT AGREEMENT

Purchase Order#: XXXXXX Account #: XXX-XXX-XXX.XXX

Date: XXXXXX

Project: XXXXX

Between:

Joliet Junior College
1215 Houbolt Road
Joliet, Illinois 60431

AND

Contractor
Address
Address

In the amount of \$ xxxxxxxxxxxxxxxxxxxxxxxxxxxx and 00/100

ARTICLE 1

THE WORK

1.1 The Trade Contractor and JJC agree that the materials and equipment to be furnished and the work to be done by the Trade Contractor are as follows:

The Contract Sum includes, but is not limited to the following:

- 110% Performance and payment bond to Joliet Junior College, Illinois Community College District No. 525
- Insurance in accordance with Schedule "A" Insurance Requirements.

The Contract Sum excludes the following:

- All sales, consumer, use and other similar taxes on equipment and materials incorporated into the work for this project. Tax Exempt No E9992-4773-06 for Joliet Junior College, Illinois Community College District No. 525

1.2 The Trade Contractor shall be held accountable for the following Project related responsibilities: furnish all labor and supervision; furnish, supply and install all equipment, material supplies, tools, scaffolding, hoisting, transportation, unloading and handling; do all things required to complete the work described above on the Project all in accordance with the drawings, documents and specifications prepared by the Architect/Engineer/Owner; and furnish all necessary information, shop drawings, details, samples, brochures,

etc. for Owner/Architect approval, as may be required.

ARTICLE 2

TIME OF COMMENCEMENT AND COMPLETION

2.1 Trade Contractor shall start the work upon notice to proceed and shall execute the work with diligence and so as to maintain such schedules and milestones as established by JJC’s Construction Manager. The Trade Contractor agrees to complete portions and the whole of the work by the following anticipated dates:

2.2 The Trade Contractor is cautioned that schedules and milestones are subject to review and revision. It is the sole responsibility of the Trade Contractor to attend job meetings, keep itself informed of any revisions, and conform to any such revisions.

2.3 In the event that the Trade Contractor should fail to maintain JJC’s progress schedule or the schedule as established above, the JJC Construction Manager reserves the right, after 48 hours formal notice, either by letter or confirmed email to the Trade Contractor, to procure the materials, equipment, and labor necessary to proceed with, or to complete the work, or any portion thereof from other sources and charge the cost thereof to the Trade Contractor.

ARTICLE 3

THE CONTRACT SUM

3.1 JJC agrees to pay the Trade Contractor for the satisfactory performance of his work the total sum of:

Contract Amount: \$.00

Contract amount is made up of the following:

- Base Bid\$
- Alternate Bid No.\$
- Total Contract Amount.....\$

Allowances (if applicable):

Unit Prices (furnished and installed unless stated otherwise)

In current funds subject to additions and deductions for changes, as may be agreed upon, and to make payments on account thereof as follows:

- 3.2 On the established day of each month, the Trade Contractor shall deliver to the JJC Construction Manager (2) completed copies of the JJC Payment Application Package showing values of all materials delivered and work completed up to the established billing date for which payment is being requested. It is specifically understood and agreed that prior to submission of the first statement the Trade Contractor will deliver to the JJC Construction Manager, for review and approval, a detailed breakdown of this contract sum showing a schedule of values for the various parts of the work. Once accepted, this schedule of values will be used as a basis for checking the Trade Contractor's monthly statement.
- 3.3 The Trade Contractor shall, with the second and each succeeding monthly request for payment, submit a waiver of lien showing all payments made for labor and materials and on account for all work covered in the previous months request for payment. Affidavit and waiver of liens may be required to be submitted from Trade Contractors, suppliers, and/or Trade-Trade Contractors (all tier).
- 3.3.1 The Trade Contractor shall, with the second and each succeeding monthly request for payment, submit certified payroll for all labor and sub labor.
- 3.4 Ten percent (10%) of each payment shall be retained, unless specific provisions to the contrary are indicated in the contract documents.
- 3.5 No payment made under this Agreement, including the final payment, shall be conclusive evidence of the performance of the work, either wholly or in part, and no payment shall be construed as an acceptance of defective work or improper materials.
- 3.6 The Trade Contractor shall save and keep JJC's property free from all mechanics' and material liens and all other liens and claims, legal or equitable, arising out of the Trade Contractors work hereunder. In the event any such lien or claim is filed by anyone claiming by, through, or under the Trade Contractor, the Trade Contractor shall remove and discharge same, by bonding or otherwise, within five (5) days of the filing thereof.

ARTICLE 4

THE CONTRACT DOCUMENTS

- 4.1 The contract documents consist of this Agreement and any exhibits attached hereto; general conditions, supplementary, special and other conditions, the drawings, specifications, general instructions to bidders, supplements to bidder's documents, form of proposal, all addenda issued prior to and all modifications issued after execution of the Agreement. Any post bid review and/or pre-construction document shall be considered part of this Agreement.
- 4.2 The Trade Contractor agrees to perform the work under the general direction of the JJC Construction Manager.
- 4.3 If there is a provision for liquidated damages in the contract documents, the Trade Contractor shall be liable for any liquidated damages by reason of the failure of the Trade Contractor to prosecute the work diligently and properly.
- 4.4 No extra work shall be performed under this Agreement, except upon receipt of a written change

order from JJC. Should the Trade Contractor proceed with any work they consider extra to this contract without a fully executed JJC change order form, it is considered at their own risk and cost.

ARTICLE 5

INSURANCE AND INDEMNITY

5.1 The Trade Contractor agrees to at the time of execution of this Agreement furnish the Construction Manager with certificates of an insurance company (or other source). These certificates should certify that the Trade Contractor is protected on the work with worker's compensation and employer's liability, public liability and bodily injury, property damage insurance, and any other insurance as required by the contract documents and in accordance with the attachment to this Agreement entitled "Insurance Specifications". The Trade Contractor will not be permitted to start work at the site until these certificates are filed with the JJC Construction Manager. Compliance by the Trade Contractor with the foregoing requirements, as to carrying insurance and furnishing certificates, shall not relieve the Trade Contractor of its liabilities and obligations.

ARTICLE 6

PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

6.1 The Trade Contractor agrees to furnish and pay for a 110% Performance Bond and a 110% Labor and Material Payment Bond. The bonds are to be delivered within 10 days of receipt of a purchase order and execution of this agreement.

ARTICLE 7

WARRANTY

7.1 The Trade Contractor agrees to promptly make good, without cost to the JJC, any and all defects, due to faulty workmanship and/or materials, which may appear within the guarantee or warranty period so established in the contract documents. If no such period be stipulated in the contract documents, then such guarantee shall be for a period of one (1) year from date of completion and acceptance of the work by JJC. The Trade Contractor further agrees to provide any and all guarantees as required by the terms of the contract documents, as a condition precedent to final payment.

ARTICLE 8

CHANGES IN THE WORK

- A. 8.1 The Trade Contractor may be ordered in writing by JJC, without invalidating this Agreement, to make changes in the work within the general scope of this Agreement. These changes may consist of additions, deletions, or other revisions, the contract sum and the contract time being adjusted accordingly. The Trade Contractor, prior to the commencement of such changed or revised work, shall submit promptly to the JJC Construction Manager written copies of any claim for adjustment

to the contract sum and contract time for such revised work in a manner consistent with the contract documents. Any extra work done by the Contractor will be considered performed at no extra cost to JJC unless a written JJC change order form has been fully executed and signed by the Director of Business and Auxiliary Services. A contractor shall not be entitled to any compensation for extra work/material based on verbal conversations or email exchanges (the contractor is considered proceeding with extra work at their own risk without a fully executed JJC change order form). It is the contractor's responsibility to obtain a fully executed change order form from JJC. A change order or a combination of multiple change orders may not exceed 10% of the original contract without JJC seeking approval from the Board of Trustees.

8.2 Where changes in the work involve both additions and deletions, percentages for overhead and profit shall be applied to the net increase only of such values for labor and materials.

8.3 The amount to be paid by the Owner for changes in the work, as outlined in paragraph 8.1 above, shall be made on the basis of one of the following methods:

(a) by mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation and agreed upon by the JJC Construction Manager and the Trade Contractor, or

(b) by unit prices stated in the contract documents, or

(c) if no such unit prices are set forth and if the parties cannot agree upon a lump sum, then the actual net cost in money to the Trade Contractor of materials and labor (including insurance and applicable taxes) required, plus rental of plant equipment (other than small tools and small equipment) plus compensation for overhead and for profit as noted in Article 12, field overhead will not be considered as part of actual net cost, or

(d) by the method provided in subparagraph 8.4.

8.4 If none of the above methods set forth in clauses 8.3 (a), 8.3 (b), 8.3 (c) is agreed upon, the Trade Contractor, provided he receives a written order signed by JJC shall promptly proceed with the work involved. The cost of such work shall be determined by the JJC Construction Manager on the basis of reasonable expenditures and savings of those performing the work attributable to the change, including, in the case of an increase in the contract sum, a reasonable allowance for overhead and profit as set forth in the bid documents. In such case, and also under clauses 8.3 (c) and 8.3 (d) above, the Trade Contractor shall keep and present, in such form as the JJC Construction Manager may prescribe, an itemized accounting together with appropriate supporting data for inclusion in a change order. Unless otherwise provided in the contract documents, cost shall be limited to the following: cost of materials including sales tax and cost of delivery, cost of labor including social security, old age and unemployment insurance and fringe benefits required by Agreement or custom; workers or workmen's compensation insurance; bond premiums; rental value of equipment and machinery; and the additional costs of supervision and field office personnel directly attributable to the change. Pending final determination of cost, payments, on account shall be made as determined by the JJC. The amount of credit to be allowed by the Trade Contractor for any deletion or change which results in a net decrease in the contract sum will be the amount of the actual net cost as confirmed by JJC when both additions and credits covering related work or substitutions are involved in any one change, the allowance for overhead and profit shall be figured on the basis of the net increase, if any with respect to that

change.

8.5 For work performed by a Trade-Trade Contractor, the Trade Contractor will be allowed to add 5% only and said Trade-Trade Contractor mark-up shall not exceed the agreed upon percentages noted in Article 11 for overhead and profit.

ARTICLE 9

TRADE CONTRACTOR RESPONSIBILITIES

9.1 The Trade Contractor shall provide sufficient, safe, and proper facilities at all times for the inspection of the work by JJC. The Trade Contractor shall, within a 24-hour notice from the JJC Construction Manager, proceed to take down all portions of the work and remove from the grounds or buildings, all materials, whether worked or unworked, which the JJC Construction Manager shall condemn as unsound or improper, or as in any way failing to conform to the contract documents. The Trade Contractor shall make good at its own expense, all work damaged or destroyed thereby.

9.2 The Trade Contractor agrees, in the performance of this Agreement, to comply with all federal, state, municipal, and local laws, ordinances, codes and governing regulations, to pay all costs and expenses required thereby; to pay all fees, charges, assessments, and taxes, including sales and use taxes, and to pay all fringe and other benefits required by Agreement or law.

9.3 The Trade Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save JJC harmless from loss on account thereof, except that JJC shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified, but if the Trade Contractor has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the JJC Construction Manager.

9.4 Should the Trade Contractor become insolvent, or at any time, refuse or neglect to supply a sufficiency of properly skilled workers, or equipment and materials of the proper quality, or fail in any respect to prosecute the work with promptness and diligence, or fail in the performance of any of the Agreements herein contained, JJC shall be at liberty, after 48 hours written notice to the Trade Contractor, to provide any such labor, equipment, and materials and deduct the cost thereof, from any money then due or thereafter to become due to the Trade Contractor, under this Agreement if such refusal, neglect, or failure is sufficient ground for such actions, JJC shall also be at liberty to terminate the employment of the Trade Contractor. Consequently, JJC may enter upon the premises to take possession, for the purpose of completing the work included under this Agreement, of all materials, tools, and appliances thereon, and to employ any other person or persons to finish the work and provide the materials therefore. In case of such discontinuance of the employment, the Trade Contractor shall not be entitled to receive any further payment under this Agreement until the said work shall be wholly finished. If such expense shall exceed such unpaid balance, the Trade Contractor shall pay the difference to JJC. The expense incurred by JJC, as herein provided, either for furnishing materials, or finishing the work, and any damage incurred through such default, shall be chargeable to the Trade Contractor. In the event that a Termination for Cause is not upheld by a properly empowered judicial or arbitral authority, then the Termination for Cause shall be deemed a Termination for Convenience and construed under Section 9.4.1. hereof.

9.4.1 Notwithstanding the above paragraph, JJC reserves the right to terminate this Agreement for its convenience upon written notice to the Trade Contractor. In such instance the Trade Contractor will be paid

its share of the contract amount proportionate to the percentage of its work completed and other reasonable cancellation costs incurred as a result of said termination. No payments shall be made for anticipated overhead and profit. Prior to making any payments under this clause, JJC shall have the right to audit the records of the Trade Contractor.

9.5 The Trade Contractor agrees to adhere to the federal occupational safety act, state and local safety regulations and JJC's safety and health program so as to avoid injury or damage to persons or property, and to be directly responsible for damage to persons and property resulting from failure to do so.

9.6 In the event the Trade Contractor after a 24-hour written notice from JJC fails to take corrective action to insure compliance with said safety regulations or removal of rubbish and debris resulting from his work, JJC shall undertake these obligations and charge the cost of same to the Trade Contractor's account without further notice to the Trade Contractor.

9.7 The Trade Contractor agrees to notify the JJC Construction Manager of all accidents which may occur to persons or property and shall provide a copy of all accident reports on appropriate forms. All reports shall be signed by the Trade Contractor or his authorized representative and submitted within five (5) days of occurrence.

9.8 The Trade Contractor shall procure its materials from such sources, and employ such labor subject to contract terms and conditions in order to ensure harmonious labor relations on the site and prevent strikes or labor disputes by its employees or other trade employees. The Trade Contractor, in the event of a labor dispute including strikes, shall take whatever action is required in order to prevent the disruption of work on the Project site.

9.9 The Trade Contractor will not assign this Agreement or any moneys due or to become due under this Agreement, or sublet the whole or any part of the work to be performed hereunder, without the written consent of the Owner. In the event of such consent, a Trade-Trade Contractor must comply with all the requirements of this Agreement.

9.10 The Trade Contractor agrees that all disputes concerning the jurisdiction of trades shall be adjusted in accordance with any plan for the settlement of jurisdictional disputes which may be in effect either nationally or in the locality in which the work is being done. The Trade Contractor shall be bound by, and shall abide by, all such adjustments and settlements of jurisdictional disputes, whether or not the Trade Contractor is signature bound by the Agreement establishing the impartial jurisdictional disputes board and/or its successors. The Trade Contractor agrees not to cause work stoppage, due to the jurisdictional assignment of work.

9.11 The Trade Contractor shall submit to the JJC Construction Manager upon request, copies of orders placed for the various materials required for the Project or authentic stock lists if such material is normally a stock item. Order copies need not reflect prices but should indicate type of material, quantity, vendor name, and address, etc. The Trade Contractor shall be required to submit to the JJC Construction Manager a monthly material status report, or more often if required by the JJC Construction Manager, as a prerequisite for the monthly progress payment. The Trade Contractor shall notify the JJC Construction Manager immediately upon learning of a change of status of any material, equipment, or supplies.

9.12 The Trade Contractor shall continuously and adequately protect all his work and will immediately replace all damaged and defective work.

9.13 The Trade Contractor agrees to maintain an adequate force of experienced workers and the necessary materials, supplies, and equipment to meet the requirements of the JJC Construction Manager and other trades in order to maintain construction progress schedules, as established by the JJC Construction Manager. In the event that his force is, in the judgment of the JJC Construction Manager, inadequate to meet the established schedules during the regular working hours, the Trade Contractor agrees to work sufficient overtime hours or increase his work force to meet such schedules at no extra cost to JJC. If for reasons not already stated, the JJC Construction Manager requires and directs the Trade Contractor to work overtime, including Saturdays, Sundays or Holidays, the Trade Contractor will be reimbursed the net premium rate only. The net premium rate is understood to mean the actual premium labor cost, including applicable taxes and wage additives required by trade Agreement or by law, but without additives for overhead, labor efficiency, or profit.

9.14 The Trade Contractor agrees to employ competent administrative, supervisory, and field personnel to accomplish the work, including layout, engineering, and preparation and checking of shop drawings. If required, the Trade Contractor shall substantiate this employment of competent personnel to JJC's Construction Manager's satisfaction before initiating any work.

9.15 The Trade Contractor shall insure that all construction tools, equipment, temporary facilities, and other items used in accomplishing the work, whether purchased, rented, or otherwise provided by the Trade Contractor or provided by others, are in a safe, sound, and good condition, must be capable of performing the functions for which they are intended and must be maintained in conformance with applicable laws and regulations.

9.16 If the Trade Contractor is delayed at any time in the progress of the work by any act or neglect of JJC, the Architect/Engineer, or by any employee of either, or by any separate contractor employed by JJC, or by changes ordered in the work, or by labor disputes, fire, unusual delay in transportation, adverse weather conditions not reasonably anticipatable, unavoidable casualties or any causes beyond the Trade Contractor's control, or by delay authorized by JJC, or by any other cause which the JJC Construction Manager determines may justify the delay, then the contract time shall be extended by amendment for such reasonable time as the JJC Construction Manager may determine. In the event that a conflict exists between this section (9.16) and a like clause contained in a document having higher precedence, such like clause shall have preference to the extent of the conflict.

9.17 Right-To-Know- each Trade Contractor is required to implement the provisions of the right-to-know law, if any, as enacted by the state in which the work is being performed. Before using on site any material listed in the right-to-know substance list, each Trade Contractor will furnish the Construction Manager a copy of the material safety data sheet for that substance.

9.18 In the event the Trade Contractor employs independent contractors, as well as payroll labor, to discharge its obligations hereunder, the Trade Contractor acknowledges and understands that it does so at its own risk and that federal, state and/or local agencies may dispute the independent contractor status and assess penalties, fines, and costs should there be a determination to reclassify such workers. In that event, the Trade Contractor agrees that it will defend, indemnify and hold JJC harmless from any fines, costs, damages, penalties, attorneys fees, and causes of action, including without limitation, personal injury or property damage, arising out of or relating in any way to such a determination.

9.19 The Trade Contractor will have competent supervision on site at all times when work is proceeding. No subcontractor should be working on site without representation/supervision by this Trade Contractor. The JJC Construction Manager reserves the right to hire proper supervision of subcontractors, and fully back charge

this Trade Contractor for such services.

ARTICLE 10

EQUAL OPPORTUNITY

10.1 During the performance of this Agreement, the Trade Contractor agrees not to discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Trade Contractor will take affirmative action to insure that applicants are employed without regard to their race, color, religion, sex, or national origin. The Trade Contractor will comply with all provisions of Executive Order No. 11246, Section 503 of the Rehabilitation Act of 1973, as Amended, the Vietnam Era Veterans' Readjustment Assistance Act of 1974, as Amended, (38 U.S.C. 4212) and their implementing regulations at 41 CFR Chapter 60.

ARTICLE 11

ALTERATIONS

11.1 The overhead and profit allowable under Article 8.3. A, 8.3 B, 8.3 C is:

- For the Trade Contractor, for any Work performed by the Trade Contractor's own forces- 12 percent of the cost
- For the Trade Contractor, for Work performed by his Subcontractor - 5 percent of the amount due the Subcontractor

11.2 All proposals, except those less than \$200 shall be accompanied by a complete itemization of costs including, labor, materials and subcontractors. Labor and material shall be itemized in the manner prescribed in Article 11.1. Where major cost items are subcontracts, they shall be itemized also. In no case will a change involving over \$200 be approved without such itemization.

ARTICLE 12

COMPLETE AGREEMENT

12.1 This Agreement, together with all documents, specifications, drawings, incorporated herein by reference, constitutes the entire Agreement between JJC and Trade Contractor. There are no terms, conditions, or provisions, either oral or written, between the parties hereto, other than those contained herein. This Agreement supersedes any and all written representations, inducements, or understandings of any kind or nature between the parties hereto, relating to the particular Project involved herein.

12.2 The said parties for themselves, their heirs, successors, executors, administrators and assigns, do hereby agree to the full performance of the covenants herein contained.

12.3 Governing Law; Venue - The validity, construction and interpretation of this Agreement shall be governed by the laws of the State of Illinois. The parties hereto irrevocably agree that all actions or proceedings in any way, manner or respect arising out of or from or related to his Agreement shall be litigated only in the Circuit Court, Twelfth Judicial Circuit, Will County, Illinois. Each party hereby consents and submits to personal jurisdiction in the State of Illinois and waives any rights such party may have to transfer the venue of any such action or proceeding.

In witness whereof they have hereunder set their hands the day and date first above written.
In the presence of

Trade Contractor

Accepted by: _____ (Signature)

Name: _____ (Print name)

Title: _____

Date: _____

Joliet Junior College
Owner

By: _____ (Signature)

Joliet Junior College

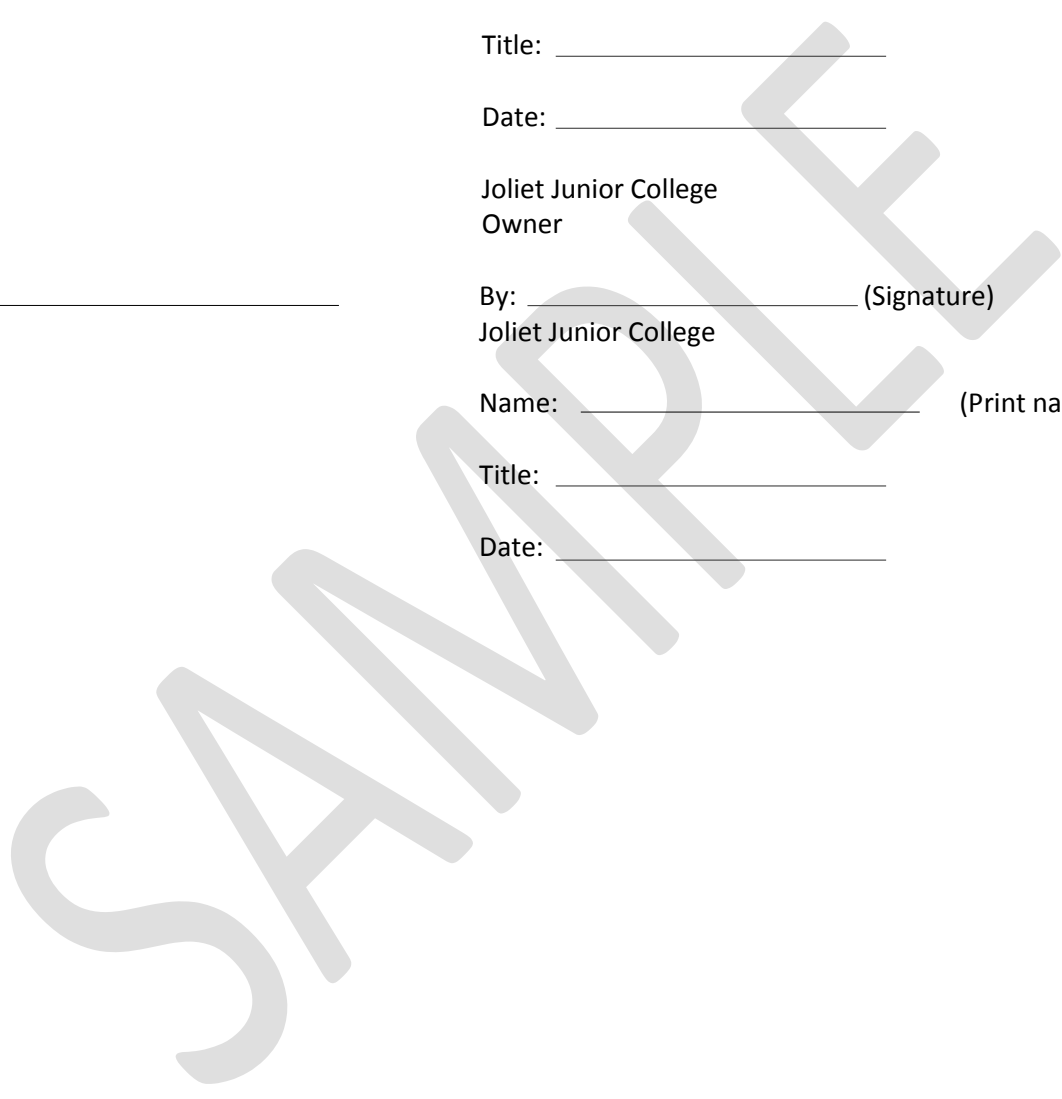
Name: _____ (Print name)

Title: _____

Date: _____

Witness

Witness



Preconstruction Conference Checklist

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Date:

Time:

Project Title / Location:

Project Number:

FOR

1. **Introductions:** All project members are to introduce themselves including their name, organization, title, and role on the project.

A. Joliet Junior College Personnel:

1. Construction Manager:

- a. Phone:
- b. Cell:
- c. Email:

2. Alternate Contact:

- a. Phone:
- b. Cell:
- c. Email:

B. Contractor Personnel

1. Project Manager:

- a. Phone:
- b. Cell:
- c. Email

2. Construction Superintendent:

- a. Phone:
- b. Cell:
- c. Email:

2. **Communications:**

- A. Communications related to the project between Joliet Junior College and the Contractor shall be conducted through the Joliet Junior College Construction Manager (CM) only, unless directed otherwise.
- B. In the event of an emergency the Contractor is to contact Campus Police at 815-280-2234, or may pick-up any campus phone and dial 2911.
- C. RFI's: Requests for Information (RFI's): All Requests for Information shall be in written form to JJC's CM with a copy to the A/E when required. All responses will come from JJC or the A/E in writing addressed to the Contractor's Project Manager

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- D. Weekly Construction Reports: Contractor is to provide a weekly construction report to JJC CM. This report is to be inclusive of daily activities, potential delays, stoppage, problems, accidents, near misses, significant decisions, meetings, requests by JJC, etc.
- E. Correspondence: All correspondence shall be directed to the Construction Manager

Joliet Junior College
Facilities Services Department
ATTN: _____
1215 Houbolt Road
Joliet, IL 60431

Include Project Title, Project Number, Purchase Order Number on ALL correspondence.

3. Construction Schedule:

- A. Schedule of Values: Contractor is to provide a schedule of values (AIA document recommended) broken down into each division of the work as a minimum. The schedule of values will include as a minimum a listing of the work elements or branch values, the cost of each work element, and the percentage of total project "award" cost that the work element represents. The schedule of values will become the basis for "work elements" a.k.a. "branch values" of the Construction Schedule. These same "work elements" shall be used as the basis for the "branch values" of the Construction Progress Report as listed in item #2D above.
- B. Construction Schedule: Contractor is to submit within one week of pre-construction meeting, a fully developed gantt chart type construction schedule.
 - 1. Provide a task for each construction activity or "work element".
 - 2. No progress payment will be processed until the construction schedule is submitted and approved.
 - 3. Provide a revised, updated schedule with each progress payment request.

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Performance:

A. Commencement, Prosecution & Completion of Work

1. Purchase order/notice to proceed received: _____
2. Contract Amount: _____
3. Total Amount of Alternates Accepted: _____
4. Proposed start/mobilization date : _____
5. Preconstruction Submittals Received: Check one Y _____ N _____
6. Bonding & Insurance Requirements Received: Check one Y _____ N _____
7. Completion date: _____
8. Delays and time extensions: The Contractor is responsible for the completion of project work within the time designated above and in the construction schedule. Justified change orders may qualify a delay and require a time extension which must be discussed and approved by the JJC CM. Failure to complete the project on time will result in a negative evaluation of Contractor performance on the JJC project close-out documents.
9. All shop drawings will be submitted to the JJC CM or A/E when required. Material samples shall be submitted for approval when required.
10. The JJC CM and/or the A/E will provide a list of punch list items. The final punch list shall be completed within 2 weeks upon substantial completion. 10% of the contract amount will be withheld until all punch list items are completed.
11. Construction status meetings between the Contractor and JJC CM shall be held on a weekly basis in the JJC CM's office. At the JJC CM's discretion, this weekly meeting may be held via conference telephone call as the project dictates.
12. As-built drawings shall be maintained and kept on-site daily. Final as-built drawings are required to be turned over to the JJC CM at project completion. When AutoCAD drawings are available from the A/E, the Contractor will revise the drawings to reflect as-built conditions. Final payment will not be processed until all as-built drawings are received.

B. Coordination of Work:

1. The Contractor is responsible for coordination of all elements of the work and every aspect of the coordination of his subcontractors work.
2. The Contractor is required to have a competent construction supervisor in charge of the work at all times. Construction supervisor may be a working foreman. It is required that the contractor have their own supervisor on site anytime they have a subcontractor on site.
3. When the shut down of utilities is required, the Contractor shall coordinate with the JJC CM to schedule the shut down process. Allow a minimum of 5 days notice

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to allow for a shut down. Unless otherwise stated during the bidding process, a utility shut down will be required between the hours of 10:00 p.m. to 6:00 a.m.

4. The contractor is to consider any loud construction noise that may be disruptive to classes, faculty, students and staff (including but not limited to loud demolition, hammer drilling, concrete cutting/drilling, rock breaking, shooting of metal stud track into floors and ceilings, etc.). Such work shall be performed during the maintenance hours of 10:00 p.m. to 6:00 a.m.
 5. The contractor will be responsible for providing and maintaining portable toilet facilities when the scope of work is an outdoor project. Location of the portable toilet(s) shall be coordinated with JJC.
 6. Any project requiring excavation with remaining spoils shall be hauled off site as part of the contractor's base scope of work. Leaving/spreading spoils on site shall not be permitted.
- C. Contractor Evaluation:
- At the completion of the project, the JJC CM will complete a contractor evaluation. This evaluation is kept on file and is taken into consideration when considering the Contractor for future projects.

13. Mobilization: Prior to the Contractor mobilizing on site, the following requirements must be met and reviewed.

- A. Pre-mobilization requirements:
1. Safety plan submitted and approved. Safety plan should address issues of excavation, crane lifts, hot work and other construction hazards that may apply to their work.
 2. Schedule of Values and Construction Schedule submitted and approved.
 3. Review Contractor's plan for mobilizing on site, including phasing, timing elements, crane operations, dumpster locations, gang box locations, deliveries, parking, storage of material, etc.
 4. Contractor check-in with Facility Services. The Contractor's employees are required to obtain vehicle tags and I.D. badges. Any ticketing by Campus Police as a result of no vehicle tag will be the responsibility of the Contractor.

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14. Maintenance, Housekeeping and Clean-up: The Contractor is primarily responsible for housekeeping in its respective work areas, and for work performed by its employees and subcontractors. This means the Contractor's work area is required to be maintained in an orderly, safe and productive condition at all times.

- A. Accumulation of combustibles, flammable liquids, chemical products, tools not in use, trash and/or refuse is not acceptable and will not be allowed.
- B. Parking, staging and storage of materials and equipment shall be confined to designated areas only.
- C. When a Contractor's work material may be dislodged by wind and could create a hazard when left in an open area, it shall be secured by the Contractor.
- D. The Contractor will police its work area(s) at the end of the shift and leave the area in a condition that is acceptable to the JJC CM.
- E. In the event that housekeeping in a Contractor's work area is found to be in an unacceptable condition by the JJC CM, the CM will give notice once verbally to the Contractor's on-site supervisor or foreman. If the deficiency is not corrected in a timely manner (and no later than the end of the day's work shift), the JJC Facility Services Department may make provisions for clean-up (which may or may not be done by outside services), and fully back charged to the Contractor. The Contractor will be liable for all costs associated with clean-up at a minimum rate of \$125/man hour plus materials.
- F. The Contractor shall provide and install safety fencing or barricades around areas requiring protecting (including but not limited to trees, plantings, etc.). This includes installing cyclone fencing for outdoor projects to prevent anyone from entering the construction zone.
- G. The Contractor will be responsible for daily cleaning of mud off roadways where required, or caused by this Contractor.
- H. The Contractor will provide tree protection and install silt fencing when working in areas that such protection or erosion control is required.
- I. The Contractor will provide berms around storm drains to prevent mud run-off from entering the lake.

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- J. The contractor shall provide floor protection where necessary when the potential of damage to flooring may occur as a result of this contractors work. Contractor is to determine the necessary means, material and extent of floor protection required. Contractor should also photograph and document existing floor conditions prior to any work.
- K. Any landscape/lawn areas disturbed or damaged (inclusive of ruts, damaged trees, bushes, grass/turf, etc) as a result of this contractors work shall be repaired and/or replaced to original condition. Contractor shall take necessary means to protect such areas whenever possible.
- L. Where necessary, this contractor shall provide dust protection in all areas that may be impacted by their work. Means and methods of dust protection is to be determined by this contractor. Contractor will be fully responsible for cleaning all dust in any and all areas impacted by this project.

15. Conduct and Behavior:

The Contractor's employees and representatives must take into consideration the environment around them when holding conversations with fellow associates as well as JJC staff as to not interrupt classes that may be in session, or students in concourses that may be studying. Profanity/foul language, derogatory remarks or harassment of faculty, staff and/or students will not be tolerated and will be an immediate means for the employee dismissal from the project by JJC.

16. Progress Payments/Invoicing and Change Orders:

- A. A "pencil" copy of progress invoicing shall be submitted to the JJC CM & the A/E by the 1st of every month for review and approval. Final invoicing shall be in by the second week of the month for processing and board approval. No invoice will be processed without lien waiver(s) and certified payroll.
- B. Any extra work done by the Contractor will be considered performed at no extra cost to JJC unless a written JJC change order form has been fully executed and signed by the Director of Business and Auxiliary Services. A contractor shall not be entitled to any compensation for extra work/material based on verbal conversations (the contractor is considered proceeding with extra work at their own risk without a fully executed JJC change order form). It is the contractor's responsibility to obtain a fully executed change order form from JJC. A change order, or a combination of multiple change orders may not exceed 10% of the original contract without JJC seeking approval from the Board of Trustees.

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17. Miscellaneous:

- A. Soliciting or canvassing and posting or distributing printed material (except as permitted by law) is prohibited.
- B. Smoking and chewing tobacco is strictly prohibited on JJC property.
- C. Drinking, using, possessing or being under the influence of alcohol or controlled substances are prohibited, and a cause for immediate dismissal.
- D. No radios, CD Players or MP3 players shall be used during normal working hours.
- E. The Contractor shall perform his/her work in accordance to no less than the minimum requirements as established by the Occupational Safety and Health Association. Personal Protection equipment shall be provided by the Contractor and worn at all times.
- F. The Contractor will be responsible for securing materials and tools and shall be solely responsible for any such theft or damage.

By signing below, the Contractor certifies that he, his employees, subcontractors, or assigns will abide to this Preconstruction Conference Checklist during the course of the project. This document shall be attached and included as part of the contract for this project.

Contractor: _____
Print name: _____
Sign name: _____
Title: _____
Date signed: _____

JJC CM: _____
Sign name: _____
Date signed: _____

August 2008

Safety Requirements for Contractors and Subcontractors

Environmental Health and Safety

Facility Service Department

(815) 280-2384

Environmental Health and Safety

Safety Requirements for Contractors And Subcontractors

Environmental Health and Safety

Facility Services Department

1215 Houbolt Rd.

Joliet, IL 60431

Phone: (815) 280-2384 Fax (815) 280-6673

[http: // www.jjc.edu/ehs](http://www.jjc.edu/ehs)

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Introduction

EHS Information

The mission of Environmental Health and Safety (EHS) is to:

- Work toward providing a safe and healthful living, learning, and working environment for every member of the greater college community by assuring safe work practices through educating, training, and assisting individuals and departments;
- Help individuals and departments achieve compliance with all health and safety state and federal regulations and college policies as economically as possible and
- Act as liaison with external regulatory agencies, and to monitor college compliance with mandatory health and safety standards whenever necessary.

Purpose

Joliet Junior College developed *Safety Requirements for Contractors and Subcontractors* to assure the safety of college employees and the public who may be in proximity to renovation, demolition, installation, or maintenance operations performed by Contractors or Subcontractors. Every Contractor is expected to take steps as necessary to protect the safety and health of college employees, students, and visitors during the performance of their work. Each Contractor that coordinates the work of Subcontractors shall assure that they abide by the requirements outlined herein.

Application

Each department that coordinates or uses the services of a Contractor to perform maintenance, repair, installation, renovation or construction-related operations is expected to designate one or more persons to coordinate this program within his or her department. These coordinators are expected to assure that the Contractor is:

- Informed of the presence of hazards in or near the work area.
- Informed about JJC's requirements related to lead, confined space entry, lockout/tagout, hot work, and excavation operations.
- Aware of the colleges' expectations regarding safety compliance and the control of worksite hazards.

A representative from EHS will serve as the coordinator for the purposes of this program on capital renovation and construction projects.

Scope

This program applies to all JJC properties, and to all work performed by Contractors and Subcontractors in or on property owned, leased or occupied by JJC or employees of JJC.

General Requirements

Contractual Obligations

A copy of this document shall be made available upon request to prospective bidders/offerors at the pre-bid/pre-proposal conference for the work. This document shall be either included with, or referenced in, the contract documents.

Contractors performing building, facilities or equipment-related construction, repair, installation, renovation or maintenance activities shall attend a safety orientation as follows:

- On capital projects, this orientation will be conducted during the pre-construction conference or as determined by the Project Manager.
- For non-capital construction/renovation work, the Project Coordinator shall arrange the safety orientation with EHS and the Contractor prior to the start of work by contacting EHS at (815) 280-2384. Contractors retained on a term contract need only attend one safety orientation held prior to the award of the first project under that contract.

The Contractor shall provide the Project Manager/Coordinator with emergency contact phone number(s), usable 24 hours a day, for the Contractor's representative. These phone numbers shall be copied to EHS and the JJC Police Department prior to the work.

The Contractor bears sole responsibility for the safety of his or her employees. The Contractor is expected to take all steps necessary to establish, administer, and enforce safety rules that meet the regulatory requirements of the Illinois Department of Labor (IDOL) and the Occupational Safety and Health Administration (OSHA). These regulations include, but are not limited to:

- Title 29 of the Code of Federal Regulations (CFR) Parts 1910, Occupational Safety and Health Administration (OSHA) Standards for General Industry,
- Title 29 of the Code of Federal Regulations (CFR) Parts 1926, Occupational Safety and Health Administration (OSHA) Standards for the Construction Industry.

The Contractor bears sole responsibility for communication of safety-related information and requirements to his or her Subcontractors. Contractors shall assure that their Subcontractors comply with the requirements outlined herein.

Submittals

Submittals, where required from the Contractor by this document, shall be made in writing, directly to the Project Manager/Coordinator and copied to EHS. Submittals shall be made sufficiently in advance to avoid delay of the project. Where review, approval, or coordination of submittals is required, submittals shall be made at least ten (10) working days prior to the start of the project unless prior arrangements have been made. Post-job submittals, where required

as outlined in this document, shall be made no later than fifteen (15) working days after completion of the project or as specified herein.

Control of Fugitive Emissions

The Contractor shall take all reasonable precautions necessary to control fugitive emissions from the job site. Fugitive emissions include, but are not limited to: nuisance dust, chemical odors/vapors/gases, hazardous materials (such as lead dust or asbestos), and noise.

Where the product(s) or material(s) to be used by the Contractor has a permissible exposure limit (PEL) established by OSHA or IDOL and where college employees or the public may be exposed to the product or material, the Contractor shall take all reasonable steps to maintain exposures below the PEL where an exposure condition during use exceeding the PEL could reasonably be anticipated. In such instances, the Contractor shall monitor, or shall contract to have monitored, work area exposure conditions. Monitoring shall occur, at a minimum, during the start of work and whenever there is a change in procedure, process, or chemical or material used. If it is deemed not practicable to maintain exposures below the PEL, the Contractor shall restrict access to all areas where exposures exceed the PEL to authorize personnel only.

Accidental Spills and Releases

In the event of an accidental release or spill of chemicals or other hazardous materials the Contractor shall:

- Immediately take action as appropriate to contain the spill if this action can be taken without jeopardizing the health or safety of employees,
- Notify the fire department, campus police, or other entities as needed or required,
- Contact EHS, and
- Contact the Project Manager/Coordinator.

EHS emergency response personnel may be reached after normal business hours by contacting the Campus Police Department at (815) 280-2234 or 2811 from a house phone.

The following phone numbers may be used in the event of an emergency during normal working hours:

| | Outside | On-Campus |
|--|----------------|----------------|
| Joliet Fire Department and Ambulance | | 911 |
| JJC Campus Police | (815) 280-2911 | Extension 2911 |
| North Campus-Romeoville Fire/Ambulance | 911 | 911 |
| Morris Fire/Ambulance | 911 | 911 |
| Environmental, Health and Safety | (815) 280-2384 | Extension 2384 |
| East Joliet Fire/Ambulance | (815) 723-1504 | 911 |
| Facility Services | (815) 280-2332 | Extension 2332 |

All college costs associated with responding to or remediation of a chemical or hazardous material spill or release may be assessed by the Contractor.

General Work Requirements

The Contractor shall abide by the requirements of any sign posted in a building that requires the use of specific personal protective equipment, that restricts access to qualified or authorized persons only, or that establishes other requirements for entry.

The Contractor shall not conduct work or operations that obstruct exits or the means of egress from an occupied building without the prior approval of EHS and the Project Manager/Coordinator. Equipment and materials are not to be stored in exits or exit stairwells at any time, and may not be stored in the means of egress without prior approval. Fire rated doors shall not be chocked or blocked open except temporarily and event of a building fire alarm or similar emergency.

Compressed gases shall be stored, used and transported in accordance of the NFPA, OSHA and DOT. New compressed gas installations shall comply with these agency requirements.

All tents, stages and temporary structures shall comply with the requirements of the NFPA.

Contractors shall not use College equipment or vehicles nor shall the Contractor allow college employees to use the Contractors' equipment or vehicles without the approval of Risk Management and EHS. If an employee of a Contractor needs to use specialized equipment owned by JJC, such as powered industrial trucks, the Contractor must provide suitable documentation that the employee has been trained and certified (if required) to use such equipment.

Specific Program Requirements

Non-capital Projects

Asbestos and Suspect Asbestos Containing Building Materials

It is the responsibility of the Contractor to provide his or her own asbestos awareness program which shall include, but is not limited to, the information contained in this section and the OSHA asbestos-related regulations (29 CFR 1926.1101). Verification that this training has been conducted shall be supplied to the college upon request.

Contractors employed by the college to perform building or facilities-related maintenance, repair or renovation shall be informed by the Project Coordinator of the location of suspect and known asbestos-containing materials (ACM) in the work area(s) to which they are assigned by one of the following means:

- The Project Coordinator shall provide the Contractor with a copy of a completed "Work Order Review Form" or an asbestos inspection report specific to their work and the materials that are to be distributed, or
- Where the construction documents for a project clearly detail asbestos material locations within the work area, these documents may serve in lieu of the "Work Order Review Form" or inspection report.

The "Work Order Review Form" is used internally at the College to document that the proposed scope of work has been reviewed for the presence of suspect or known ACM. The "Work Order Review Form" will be completed by either EHS or the individual within the Department approved by EHS to perform this review. Questions related to this issue should be addressed to EHS at (815) 280-2384. An asbestos inspection report may, at the discretion of the Contracting Department, be prepared by an asbestos consultant licensed in Illinois to perform the duties of Asbestos Inspector and Asbestos Management Planner, this report shall be copied to EHS upon receipt.

Contractors shall, under no circumstances, damage or disturb suspect or known *friable* ACM unless they are a licensed Illinois Asbestos Abatement Contractor and have been specifically employed to perform asbestos repair or removal. Contractors may remove *non-friable* ACM, or perform work that will potentially disturb non-friable ACM, only with prior approval by EHS of the Contractors proposed work methods, employee training and waste disposal site. If suspect asbestos materials are discovered during the course of the work, the Contractor shall stop work immediately and notify the Project Coordinator or other person as indicated in the contract documents.

The Contractor shall not proceed with any change in work which requires a material to be disturbed that the "Work Order Review Form", asbestos inspection report, or construction documents show has not previously been tested (e.g., "suspect" ACM). If a change in the scope of work becomes necessary, the revised scope of work shall be reviewed and pre-approved by EHS or other authorized person.

Asbestos materials may not be used or installed in College facilities.

Lead-Containing Building Materials

Contractors employed by the college to perform building or facilities-related maintenance, repair or renovation shall be informed by the Project Coordinator of the location of lead-containing building materials in the work area(s) to which they are assigned by one of the following means:

- The Project Coordinator shall provide the Contractor with a copy of the completed “Work Order Review Form” or a lead inspection report specific to their work and the materials that are to be disturbed, or
- Where the construction documents for a project clearly detail the location of lead-containing building materials within the work area, these documents may serve in lieu of the “Work Order Review Form” or inspection report.

The Project Coordinator may obtain information regarding the location of lead materials within a work site from the Department Safety Representative or by contacting EHS at (815) 280-2384. A lead inspection report may, at the discretion of the Contracting Department, be prepared by a lead consultant licensed in Illinois to perform the duties of Lead Inspector, this report shall be copied to EHS upon receipt. Contractors that will disturb lead-containing building materials during the course of work shall take all necessary precautions to protect college employees and the public from exposure to lead dust or contamination. These measures shall conform, at a minimum, to the OSHA requirements detailed in 29 CFR 1926.62 and applicable local, state and federal regulation. The Contractor shall submit a copy of his or her lead compliance program, as required by 29 CFR 1926.62(e), with required supporting documentation for prior review and approval to EHS. This submittal shall be made sufficiently in advance of construction to avoid delay of the project. Where the Contractor is engaged in work in child-occupied facilities (as defined by 40 CFR Part 745), such work shall be performed in accordance with 40 CFR Part 745, and clearance testing shall be performed by EHS or a licensed consultant at the conclusion of the project in accordance with the requirements of this regulation.

A copy of the analytical report(s) for any personal air samples taken during the course of the work shall be provided to EHS.

The Contractor shall not proceed with any change in work that requires a material be disturbed that the “Work Order Review Form”, lead inspection report, or construction documents shows has not previously been tested unless pre-approved work procedure will be followed.

On projects where lead-containing materials will be disturbed or removed during the course of work, the Project Designer shall contact EHS at (815) 280-2384 to determine disposal requirements. If the lead-containing materials will constitute a hazardous waste, disposal of these materials shall be coordinated with EHS. The disposal requirements must be established during the design of the project.

Confined Spaces

When the College arranges to have a Contractor perform work that involves entry into a confined space, the Project Coordinator shall:

- Inform the Contractor that the workplace contains confined spaces and that the entry is allowed only through compliance with a confined space program meeting the requirements set forth by the DOL and the OSHA.
- Apprise the Contractor of the elements, including the hazard(s) identified and the college's experience with the space.
- Apprise the Contractor of any precautions or procedures that the college has implemented for the protection of college employees in or near confined spaces where contractor personnel will be working.
- Coordinate entry operations with the Contractor when both College personnel and contractor personnel will be working in or near confined spaces.
- Debrief the Contractor at the conclusion of the entry operations regarding the confined space program followed and any hazards confronted or created in confined spaces during entry operations
- Provide a copy of JJC Confined Space Entry Program to the Contractor upon request.

Information on JJC Confined Space Program and information on specific confined spaces on JJC Properties may be obtained by contacting EHS at (815) 280-2384.

Each Contractor who is retained to perform work that will require permit space entry operations shall:

- Coordinate entry operations with the Project Coordinator when both the Contractor and College personnel will be working in or near permit spaces;
- Inform the Project Coordinator in writing of the permit space program the Contractor will follow;
- Inform the Project Coordinator of any hazards confronted or created in permit spaces during entry operations;
- Provide a copy of the Contractor's Confined Space Program to the College upon request;
- Inform the Project Coordinator in writing of the rescue services/team they will be using during permit entry; and
- Provide a copy of the canceled permit(s) to the Project Coordinator and EHS at the conclusion of entry operation.

Confined Spaces

The Contractor shall maintain, on-site, Material Safety Data Sheets (MSDS's) for all chemicals used or stored at his or her job site as required by IDOL/OSHA regulations and the contract documents. The Contractor shall provide copies of MSDS's to the Project Coordinator and EHS upon request.

Chemicals are used extensively on the JJC campus. Chemicals use and/or storage is routine in, but not limited to, the following areas or locations:

- Laboratories
- Fume hood exhausts on the roofs of laboratory buildings. (In general, signs have been posted on the roof access hatch or door restricting access to the roofs of buildings where fume hood exhausts are located).
- Chemical stock rooms.
- Agricultural Shops, Areas, and Chemical Storage.
- Chemical waste accumulation areas.
- Facility Services and Kitchen, paint and chemical storage areas.
- Custodial Closets.

The Project Coordinator shall inform the Contractor of the following:

- Known hazards and any required safety procedures that must be followed in the Contractor's work area.
- Methods for obtaining access to Material Safety Data Sheets (MSDS) for hazardous chemicals present in the Contractor's work area.
- Information about the labeling system used in the work area (NFPA 701).
- Emergency procedures that the Contractor is to follow in the event of accidental exposures or releases of hazardous chemicals.

If the work will be conducted on the roof of a building where fume hood exhausts are located, the Project Coordinator shall coordinate access with Facility Services, the departments within the building, and EHS, as necessary to ensure that:

- Fume hoods within, or adjacent to, the work area are shut down,
- No experiments are in-progress that would generate toxic or hazardous airborne contaminants;
- All chemicals stored within the fume hoods are capped or otherwise sealed; and
- The Contractor is informed of any special precautions that must be taken to prevent employee exposure to hazardous chemicals.

A minimum of seven days advance notice is generally required to coordinate fume hood shutdowns. In emergency situations (for example, when the Contractor's personnel must conduct work on, or in proximity to, active fume hood exhausts), the Contractor may access these roof areas if appropriate personal protective equipment is used. The Contractor shall be

informed in writing by the Project Coordinator of the precautions that should be taken to protect his or employees while conducting such work. This information may be obtained by contacting EHS at (815) 280-2384.

Given the number of chemicals used, and changing work within chemical laboratories, it is impractical for the college to provide the Contractor with a MSDS for any chemical potentially in-use within any given laboratory. However, MSDS's are required to be maintained and to be accessible to employees in each work area, and MSDS's for all chemicals may be obtained from Campus Police or EHS.

The Contractor shall assume that all hazardous chemicals or materials are handled and disposed of in accordance with federal and state regulations. Where a hazardous waste disposal manifest is required by these regulations, the Contractor shall contact EHS at (815) 280-2384 to assure that manifesting, storage, and the proposed disposal method and disposal site meet college and EPA requirements. The Contractor shall supply a copy of the completed waste manifest to EHS within 24 hours of receipt.

Where the Contractor has secured air samples documenting employee exposure to airborne chemical or particulate hazards during the course of his or her work, a copy of all air sample results shall be provided to EHS within 24-hours of receipt by the Contractor.

Electrical Safety and Lockout/Tagout

If College employees will be present on the Contractors worksite, and employees of either JJC and/or the Contractor will be performing work that requires the use of lockout and/or tagout devices, the following requirements shall apply:

- The Project Coordinator and Contractor shall inform each other of their respective lockout/tagout procedures.
- The Project Coordinator and Contractor shall each inform their personnel regarding the energy control procedures that are to be followed on the project site.
- A copy of JJC 's Electrical Safety and Lockout/Tagout programs shall be provided to the Contractor upon request.
- A copy of the Contractors electrical safety and lockout/tagout program shall be made available to the college upon request.

Trenching and Excavations

The Contractor shall coordinate trenching and excavation work with the Project Coordinator, Facility Services, and JULIE to assure the coordination of work and shutdown of utilities if necessary.

The design of sloping and benching systems, support systems, shield systems or other protective systems shall conform, at a minimum, to the OSHA requirements detailed in 29 CFR 1926 Subpart P requirements.

Trenching or excavations below the level of the base or footing of any foundation or retaining wall, or adjacent to any utility, sidewalk or roadway, will not be permitted unless:

- A support system, such as underpinning, is provided to ensure the safety of employees and the stability of the structure, or
- The excavation is in stable rock, or
- A registered professional engineer has approved the determination that such excavation work will not pose a hazard to employees or the structure.

This determination is the responsibility of the Contractor except as permitted, required or otherwise allowed by the project specifications or drawings

The Contractor shall notify the Project Coordinator of the name of the individual that is to serve as the Contractor's competent person as defined by this program and the OSHA regulations. The Contractor's designated competent person shall maintain a written log of the daily inspections made of excavations, adjacent areas, and protective systems. A copy of this written log shall be made available to the college upon request.

Where the design of a sloping and benching system, support system, shield systems or other protective systems requires review and approval by a registered professional engineer, the Contractor shall submit a copy of the completed review to the Project Coordinator and EHS prior to the start of work.

Hot Work

Contractors performing hot work shall maintain a Hot Work Permit Program and employee-training program that meets the OSHA requirements found in 29 CFR 1926.352 and ANSI Z49.1-88 and NFPA 51B. Examples of hot work include, but are not limited to, use of open flames, compressed gasses or supplied fuel burning, brazing, cutting, grinding, soldering, thawing, pipe, torch applied roofing, and welding.

A copy of the canceled permit(s) shall be provided to the Project Coordinator and EHS after completion of the work.

Capital Projects

Asbestos and Suspect Asbestos Containing Building Materials

It is the responsibility of the Contractor to provide his or her own asbestos awareness program which shall include, but is not limited to, the information contained in this section and the OSHA asbestos-related regulations (29 CFR 1926.1101). Verification that this training has been conducted shall be supplied to the Architect/Engineer of record for the project and/or the college upon request.

The location of asbestos materials, where present within the jobsite, will be detailed in the construction documents for that project.

Asbestos materials may not be used or installed in College facilities.

Lead-containing Building Materials

The location of lead materials, where present, will be detailed in the construction documents for that project.

Contractors that will disturb lead-containing building materials during the course of work shall take all necessary precautions to protect college employees and the public from exposure to lead dust or contamination. These measures shall conform, at a minimum, to the OSHA requirements detailed in 29 CFR 1926.62 and applicable local, state and federal regulations related to health, safety, transportation and disposal.

Confined Spaces

Where the work of the Contractor involves entry into confined spaces, the Contractor shall perform such entry in accordance with the OSHA (e.g., 29 CFR 1926.20 and/or 1910.146) requirements. Where the work involves an existing college permit-required confined space, the Project Manager and/or Field Engineer shall coordinate with EHS to assure that:

- The Contractor is apprised of the elements, including the hazard(s) identified and the college's experience with the space, that make it a permit-required confined space.
- The Contractor is apprised of any precautions or procedures that the college has implemented for the protection of college employees in or near permit spaces where contractor personnel will be working.
- The Contractor is debriefed at the conclusion of the entry operations regarding the permit space program followed and any hazards confronted or created in permit spaces during entry operations.

The Contractor shall provide at least 24-hours advance notice to the Field Engineer when both college personnel and the Contractor's personnel will be working in or near permit-required confined spaces. The Field Engineer shall notify EHS at (815) 280-2384, and EHS shall assure that the college personnel have been informed of the precautions and procedures to be followed during entry operations. Under these circumstances the Contractor shall:

- Inform EHS of the permit space procedures the Contractor will follow;
- Inform EHS of any hazards confronted or created in permit spaces during entry operations.

Hazard Communication

SAFETY REQUIREMENTS FOR CONTRACTORS AND SUBCONTRACTORS

The Contractor shall maintain, on-site, Material Safety Data Sheets (MSDS's) for all chemicals used or stored at the job site as required by IDOL/OSHA regulations and the contract documents.

Chemicals are used extensively on the JJC campus. Chemical use is routine in, but not limited to, the following areas or locations:

- Laboratories.
- Fume hood exhausts on the roofs of laboratory buildings. (In general, signs have been posted on the roof access hatch or door restricting access to the roofs of buildings where fume-hood exhausts are located).
- Chemical stock rooms.
- Agricultural shop, areas, and chemical storage.
- Chemical waste accumulation areas.
- Facility Services and Residential and Dining Programs paint and chemical storage areas.
- Custodial closets.

Where necessitated by the work, the Field Engineer and/or Project Manager shall coordinate with EHS to assure that the Contractor is informed of the following:

- Known hazards and any required safety procedures that must be followed in the Contractor's work area.
- Methods for obtaining access to Material Safety Data Sheets (MSDS) for hazardous chemicals present in the Contractor's work area.
- Information about the labeling system used in the work area (NFPA 701).
- Emergency procedures that the Contractor is to follow in the event of accidental exposures or releases of hazardous chemicals.

If work will be conducted on the roof of a building, where fume hood exhausts are located, the Field Engineer shall coordinate access with Facility Services, the departments within the building and EHS as necessary to ensure that:

- Fume hoods within, or adjacent to, the work area are shut down,
- No experiments are in-progress that would generate toxic or hazardous airborne contaminants;
- All chemicals stored within the fume hoods are capped or otherwise sealed; and,
- The Contractor is informed of any special precautions that must be taken to prevent employee exposure to hazardous chemicals.

A minimum of seven days advance notice is generally required to coordinate fume hood shutdowns. In emergency situations (for example, when the Contractor's personnel must conduct work on, or in proximity to, active fume hood exhausts), the Contractor may access these roof areas if appropriate personal protective equipment is used. The Contractor shall be informed in writing by EHS of the precautions that should be taken to protect his or her

employees while conducting such work. The Field Engineer may request this information by contacting EHS at (815) 280-2384.

Given the number of chemicals used, and changing work within chemical laboratories, it is impractical for the college to provide the Contractor with a MSDS for any chemical potentially in-use within any given laboratory. However, MSDS's are required to be maintained and to be accessible to employees in each work area, and MSDS's for all chemicals may be obtained from EHS.

The Contractor shall assure that all hazardous chemicals or materials are handled and disposed of in accordance with federal and state regulations and the contract requirements.

Electrical Safety and Lockout/Tagout

If college employees will be present on the Contractors worksite, and employees of either JJC and/or the Contractor will be performing work that requires the use of lockout and/or tagout devices, the following requirements shall apply:

- The EHS representative and the Contractor shall inform each other of their respective lockout/tagout procedures.
- The Project Manager and/or Field Engineer will coordinate with the EHS representative to assure that college personnel understand the energy control procedures that are to be followed in the project site.
- The Contractor shall assure that his/her personnel understand the energy control procedures that are to be followed on the project site.
- A copy of JJC's Electrical Safety and Lockout/Tagout programs shall be provided to the Contractor upon request.
- A copy of the Contractors electrical safety and lockout/tagout procedures shall be made available to the college upon request.

Trenching and Excavations

The Contractor shall coordinate trenching and excavation work with the Project Manager and/or Field Engineer and JULIE to assure the coordination of work and shutdown of utilities as necessary.

The design of sloping and benching systems, support systems, shield systems or other protective systems shall conform, at a minimum, to the OSHA requirements detailed in 29 CFR 1926 Subpart P, and the requirements of the contract.

Hot Work

Contractors performing hot work shall maintain a Hot Work Permit Program and employee-training program that meets the OSHA requirements found in 29 CFR 1926.352 and ANSI Z49.1-88 and NFPA 51B. Examples of hot work include, but are not limited to, use of open

flames, compressed gases or supplied fuel burning, brazing, cutting, grinding, soldering, thawing pipe, torch applied roofing, and welding.

Agencies/Firms With No Contractual Relationship with JJC

All agencies/firms conducting work on JJC property shall comply with the requirements of NFPA, EPA, DOL, OSHA and this program, even where no formal contractual relationship exists between JJC and the agency/firm. The agency/firm shall maintain appropriate insurance, including general liability, auto liability, and workers compensation insurance. Verification of insurance shall be coordinated with JJC's Director of Risk Management, who may be reached at (815) 280-2325, prior to the start of work. Such agencies/firms shall not, without prior written approval of EHS:

- Use a product(s) or material(s) that has a permissible exposure limit (PEL) established by OSHA.
- Perform work on JJC property that may damage or disturb known or suspect asbestos materials,
- Perform work on JJC property that may damage or disturb known or suspect lead-containing materials,
- Perform work on JJC property that involves entry into a permit-required confined space,
- Perform work on any electrical system or utility,
- Construct nor enter excavations, nor
- Perform hot work.

Work Site Inspections

Non-capital Projects

Work site inspections may be conducted by EHS or other designated college personnel. These inspections are conducted solely for the benefit of the college, and shall not relieve the contractor of responsibility for enforcement of, and compliance with, OSHA, NFPA or EPA regulations.

In the event that work site conditions exist that potentially impact the safety of college employees, students, or the public, the college inspector shall issue a verbal or written warning to the Contractor and shall notify the Project Coordinator. If the unsafe conditions cannot be immediately corrected and represent a danger or have a potential to hard college employees, students or the public, then the college inspector will:

- Detail the NFPA, EPA or OSHA violations that were noted, and explain the potential impact upon college employees, students or the public,
- Require that the Project Coordinator have the Contractor either stop work or implement measures to isolate the hazardous condition until the unsafe condition can be mitigated,
- Issue a formal written report of the violation(s) to the Contractor. This report shall be copied to the Project Coordinator.

Reports of deficiencies may be factored into the evaluation of the contract by the college, and may be included in a vendor complaint file that is available for review by other state agencies. Repeat safety violations of a similar nature and/or a single serious willful safety violation by a Contractor may warrant review and termination of the contract.

Capital Projects

Work site inspections may be conducted by EHS or other designated college representatives. Such inspections shall be coordinated with the Field Engineer and/or Project Manager. These inspections are conducted solely for the benefit of college personnel who may be working on the site and shall not relieve the contractor of responsibility for enforcement of, and compliance with NFPA, EPA, and OSHA regulations.

In the event that work site conditions exist that potentially impact the safety of college employees or the public, EHS shall notify the college Field Engineer and the Contractor of the hazard, and will assure that other college personnel present on-site are warned to avoid the area of the hazardous condition. The Contractor shall take prompt action to correct the hazardous condition. If the hazardous condition cannot be immediately corrected, the Contractor shall take effective steps to isolate the hazardous condition and/or shall stop work that is causing the hazardous condition until the hazard can be mitigated.

In the event that work site conditions exist that present an immediate safety hazard for the Contractors personnel, EHS may, as a courtesy, notify the Field Engineer and the Contractor of the hazardous condition. The Contractor shall take prompt action to correct the hazardous condition as required by the *General Conditions of the Construction Contract*.

Agencies/Firms Where No Formal Contractual Relationship Exists

When hazardous condition are identified by EHS related to work performed by agencies/firms conducting work on JJC property where no formal contractual relationship exists between JJC and the agency/firm, the hazardous condition shall be immediately corrected. If the hazardous condition cannot be immediately corrected, the agency/firm shall stop work and shall take effective steps to isolate the hazardous condition from personnel and the public. Repeat safety violations of a similar nature or willful disregard for the NFPA, EPA or OSHA requirements or the requirements outlined in this program will result in immediate removal from JJC property.

Definitions

Capital Project: A capital project is one whose total project cost exceeds \$500,000.

Competent Person: As related to excavation, trenching or shoring work, the Contractor's "competent person" means one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Confined Space: A confined space is a space that is large enough for a person to enter, that has limited means for entry or exit, and that is not designed for continuous occupancy. Example include tanks, silos, storage bins or hopper, utility vaults and pits.

Contracting Department: The Department at the college that has contracted for work to be performed by a Contractor. In regards to agencies/firms conducting work on JJC property, where no formal contractual relationship exists between JJC and the agency/firm, the department that is coordinating or approving the work of the agency/firm is the Contracting Department.

Contractor: An entity or agency employed by the college to perform the installation or maintenance of equipment or the renovation or construction of a building, room or space on college property, or that provides services to the college on college property including, but not limited to, vending, supplies, erection of tents and other services.

Field Engineer: The representative from JJC's Facility Services department that oversees capital construction and/or renovation activities.

Friable Asbestos: An asbestos material that is capable of being reduced to powder by hand pressure when dry, or a nonfriable asbestos material that is subject to grinding, sanding, cutting or abrading or that is otherwise rendered by mechanical means.

Lockout/Tagout: A program used to ensure that employees are protected from sources of potentially hazardous energy. The program requires that hazardous energy sources be identified and locked and/or tagged-out before work is done on the system(s).

Permit-required confined space: A permit-required confined space is a confined space that contains potential or known safety hazards that must be dealt with prior to or during entry to assure the safety of those employees performing the work.

Project Coordinator: The individual(s) within a Department that has been assigned duties related to oversight or coordination of work performed by a Contractor as defined in this program.

Project Manager: The representative from JJC's Facility Services department that coordinates the work of the Field Engineer and the Architect/Engineer related to capital construction and/or renovation projects.

Serious, willful safety violation: “Serious, willful safety violation” is defined, for the purposes of this program, as a work activity with a substantial probability that death or serious physical harm could result and where the hazard was known or should have been known, but where the work activity was continued regardless of the existence of the safety hazard.

LABOR MANAGEMENT PROJECT AGREEMENT

This Agreement is entered into this ____ day of ____, 20__ by and between Joliet Junior College, Illinois Community College District 525 of Will, Grundy, Kendall, LaSalle, Kankakee, Livingston, and Cook, Illinois, (hereinafter called the "Owner"); and _____ (hereinafter called the "Project Contractor"); and the _____ Building Trades Council (hereinafter called the "Union"), acting in their own behalf and on behalf of their respective affiliates and members; and the THREE RIVERS CONSTRUCTION ALLIANCE, acting on their own behalf and on the behalf of their respective affiliates and members, with respect to all construction projects at Joliet Junior College, which includes the Master Plan and Capital Improvement Plans thru August 2013, located in Will County, Illinois.

WITNESSETH:

WHEREAS, to accomplish the goals of quality, cost effectiveness and timelessness requires that all participants exhibit a positive attitude intent on success; and

WHEREAS, there must exist amongst all parties a willingness to cooperate fully in devoting themselves to the goals of the Project; and

WHEREAS, this program has no room for adverse relationships, but only a true spirit of cooperation and commitment; and

WHEREAS, it is essential that the work required to construct this Project be accomplished in an efficient and economical manner so as to provide productivity, the highest levels of quality and the total elimination of delays thereby fostering new plateaus in labor/management cooperation; and

WHEREAS, Joliet Junior College, Illinois Community College District 525 of Will, Grundy, Kendall, LaSalle, Kankakee, Livingston, and Cook, Illinois, (hereinafter referred to as

the "Owner"), its general Contractor(s), its subcontractor(s) of whatever tier, the local Building Trades Council, the THREE RIVERS CONSTRUCTION ALLIANCE dedicate themselves to the goal that together, in full cooperation, local labor, and management will produce a project of excellent quality, as economically as possible, in a safe environment, under favorable working conditions; and

WHEREAS, nothing contained herein shall prevent the Owner from considering bids for the Project so long as the General Contractor and its Subcontractors agree to abide by the terms and provisions of this Agreement.

NOW, THEREFORE, for and in consideration of the mutual covenants above-contained and other good and valuable consideration, as hereinafter set forth, the parties do hereby agree as follows:

SECTION 1. Introduction

It is understood by the parties to this Agreement that other contractors awarded construction work directly or indirectly by the Owner will execute this Agreement and become signatory contractors for the purpose of this work.

The intent of the parties to this Agreement is to establish labor and management cooperation between the Owner, Project Contractor, all Contractors and Subcontractors performing construction work in this Project site, and the appropriate Unions signatory to this Agreement for the express purpose of producing a quality project on schedule, and, as economically as possible, in a safe environment under favorable working conditions.

SECTION 2. Scope of the Agreement.

A. This Project Agreement shall apply and is limited to the recognized and accepted historical definition of new construction work under the direction of and performed by the

Contractor(s), of whatever tier, which may include the Project Contractor, who have contracts awarded for such work on the Project. Such work shall include site preparation work and dedicated off-site work.

It is agreed that the Project Contractor shall require all Contractors of whatever tier who have been awarded contracts for work covered by this Agreement, to accept and be bound by the terms and conditions of this Agreement by executing the Letter of Assent (Attachment A) prior to commencing work. The Project Contractor shall assure compliance with this Agreement by the Contractors. It is further agreed that, where there is a conflict, the terms and conditions of this Agreement shall supersede and override terms and conditions of any and all other national, area, or local collective bargaining agreements, except for all work performed under the NTL Articles of Agreement, and the National Stack/Chimney Agreement, the National Cooling Tower Agreement. All instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, and the National Agreement of the International Union of Elevator Constructors, with the exception of Section 4, 5 and 6 of this Agreement, which shall apply to such work.

B. Nothing contained herein shall be construed to prohibit, restrict or interfere with the performance of any other operation, work, or function which may occur at the Project site or be associated with the development of the Project.

C. This Agreement shall only be binding on the signatory parties hereto and shall not apply to their parents, affiliates or subsidiaries.

D. The Owner and/or the Project Contractor have the absolute right to select any qualified bidder for the award of contracts on this Project without reference to the existence or non-existence of any agreements between such bidder and any party to this Agreement;

provided, however, only that such bidder is willing, ready and able to become a party to and comply with this Agreement, should it be designated the successful bidder.

E. The provisions of this Agreement shall not apply to Owner, and nothing contained herein shall be construed to prohibit or restrict Owner or its employees from performing work not covered by this Agreement on the Project site. As areas and systems of the Project are inspected and construction tested by the Project Contractor or Contractors and accepted by the Owner, the Agreement will not have further force or effect on such items or areas, except when the Project Contractor or Contractors are directed by the Owner to engage in repairs, modifications, check-out, and warranty functions required by its contract with the Owner during the term of this Agreement.

F. It is understood that the Owner, at its sole option, may terminate, delay and/or suspend any or all portions of the Project at any time.

G. It is understood that the liability of any employer and the liability of the separate unions under this Agreement shall be several and not joint. The unions agree that this Agreement does not have the effect of creating any joint employer status between or among the Owner, Contractor(s) or any employer.

SECTION 3. Labor-Management Cooperation Committee

The parties to this Agreement hereby reaffirm the necessity for joint cooperation and participation by Labor and Management in interpreting and analyzing the effectiveness of management's application of this Agreement as well as Labor's response and any other matter affecting quality, safety, working conditions and productivity. Therefore, to secure this end, it is hereby agreed that a "Labor-Management Cooperation Committee" will be established composed of three representatives from Labor and three representatives from Management; one

representative from labor and one from Management shall be Co-Chairpersons of this Committee.

The Labor-Management Cooperation Committee shall meet a minimum of once each month, at the job site, and shall discuss the following; reports concerning any violation, dispute, questions or interpretation of the application of practices arising out of this Agreement; safety; working conditions; absenteeism; labor turnover; availability of qualified journeymen; need for training; and any other matter affecting productivity and efficiency on this project.

In the event a dispute is not resolved by the Labor-Management Cooperation Committee, such matter shall then be settled as outlined by the grievance procedure and/or arbitration provisions contained in Section 6 or 7 of this Agreement. The Labor-Management Cooperation Committee shall have no authority to render a decision involving a jurisdictional dispute.

SECTION 4. Contractor's Commitment

A Work assignments will be made in accordance with area practice, consistent with the efficient and economical performance of the work.

B. Before performing the work at the job site, the Contractor or Subcontractors of whatever tier actually performing the work will become signatory to the appropriate collective bargaining agreement.

C. The Contractors and Subcontractors shall exercise their management rights. These rights shall include planning, directing, hiring, dismissal, lay-off, transferring, appointing foremen and general foremen and otherwise directing the work force.

D. The Project Contractor agrees that neither it nor any of its contractors or subcontractors will subcontract any work to be done on the Project except to a person, firm or corporation who is or agrees to become party to this Agreement. Any contractor or subcontractor

working on the Project shall, as a condition to working on said Project, become signatory to and perform all work under the terms of this Agreement.

SECTION 5. Union (Craftsman) Commitment

A. Qualified and skilled craftsmen will be furnished as required by the Contractor in the fulfillment of its obligations of the Owner.

B. Craftsmen shall be at their place of work at the regular starting time and shall remain at their place of work until quitting time. There shall be no limit on production by Craftsmen nor restrictions on the use of tools or equipment other than that which may be required by safety practice.

C. Where stewards are appointed by respective unions, the steward shall be qualified craftsmen performing the work of his craft who shall exercise no supervisory functions. There shall be no non-working stewards.

SECTION 6. Disputes and Grievances

A. This Agreement is intended to provide close cooperation between management and labor. Each of the Unions will assign a representative to this Project for the purpose of completing the construction of the Project economically, efficiently, continuously, and without interruptions, delays, or work stoppages.

B. The Contractors, Unions, and the employees, collectively and individually, realize the importance to all parties to maintain continuous and uninterrupted performance of the work of the Project, and agree to resolve disputes in accordance with the grievance-arbitration provisions set forth in this Article.

C. Any question or dispute arising out of and during the term of this Project Agreement (other than grievances not covered by a local Collective Bargaining Agreement or trade

jurisdictional disputes) shall be considered a grievance and subject to resolution under the following procedures:

Step 1. (a) When any employee subject to the provisions of this Agreement feels he or she is aggrieved by a violation of this Agreement, he or she, through his or her local union business representative or job steward, shall, within five (5) working days after the occurrence of the violation, give notice to the work-site representative of the involved Contractor stating the provision(s) alleged to have been violated. The business representative of the local union or the job steward and the work-site representative of the involved Contractor and the Project Contractor shall meet and endeavor to adjust the matter within three (3) working days after timely notice has been given. The representative of the Contractor shall keep the meeting minutes and shall respond to the Union representative in writing (copying the Project Contractor) at the conclusion of the meeting but not later than twenty-four (24) hours thereafter. If they fail to resolve the matter within the prescribed period, the grieving party may, within forty-eight (48) hours thereafter, pursue Step 2 of the Grievance Procedure, provided the grievance is reduced to writing, setting forth the relevant information concerning the alleged grievance, including a short description thereof, the date on which the grievance occurred, and the provision(s) of the Agreement alleged to have been violated.

(b) Should the Local Union(s) or the Project Contractor or any Contractor have a dispute with the other party and, if after conferring, a settlement is not reached within three (3) working days, the dispute may be reduced to writing and proceed to Step 2 in the same manner as outlined herein for the adjustment of an employee complaint.

Step 2. The International Union Representative and the involved Contractor shall meet within seven (7) working days of the referral of a dispute to this second step to arrive at a

satisfactory settlement thereof. Meeting minutes shall be kept by the Contractor. If the parties fail to reach an agreement, the dispute may be appealed in writing in accordance with the provisions of Step 3 within seven (7) calendar days thereafter.

Step 3. (a) If the grievance has been submitted but not adjusted under Step 2, either party may request in writing, within seven (7) calendar days thereafter, that the grievance be submitted to an Arbitrator mutually agreed by them. The Contractor and the involved Union shall attempt mutually to select an arbitrator, but if they are unable to do so, they shall request the American Arbitration Association to provide them with a list of arbitrators from which the Arbitrator shall be selected. The rules of the American Arbitration Association shall govern the conduct of the arbitration hearing. The decision of the Arbitrator shall be final and binding on all parties. The fee and expenses of such Arbitration shall be borne equally by the Contractor and the involved Local Union(s).

(b) Failure of the grieving party to adhere to the time limits established herein shall render the grievance null and void. The time limits established herein may be extended only by written consent of the parties involved at the particular step where the extension is agreed upon. The Arbitrator shall have the authority to make decisions only on issues presented to him or her, and he or she shall not have authority to change, amend, add to or detract from any of the provisions of this Agreement.

D. The Project Contractor and Owner shall be notified of all actions at Steps 2 and 3 and shall, upon their request, be permitted to participate in all proceedings at these steps.

SECTION 7. Jurisdictional Disputes

A. The assignment of work will be solely the responsibility of the Contractor performing the work involved; and such work assignments will be in accordance with the Plan for the

Settlement of Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

B. All jurisdictional disputes on this Project, between or among Building and Construction Trades Unions and employers, parties to this Agreement, shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department or any other plan or method of procedure that may be adopted in the future by the Building and Construction Trades Department. Decisions rendered shall be final, binding and conclusive on the Contractors and Unions parties to this Agreement.

C. All jurisdictional disputes shall be resolved without the occurrence of any strike, work stoppage, or slow-down of any nature, and the Contractor's assignment shall be adhered to until the dispute is resolved. Individuals violating this section shall be subject to immediate discharge.

D. Each Contractor will conduct a pre-job conference with the appropriate Building and Construction Trades Council prior to commencing work. The Project Contractor and the Owner will be advised in advance of all such conferences and may participate if they wish.

SECTION 8. Joint Commitment (Contractor/Union)

A. Utilization of Union apprentices will be maximized consistent with the best interest of the job in compliance with Local Union Agreements. The high level of union apprenticeship training will be maintained to provide the Industry with productive and knowledgeable craftsmen for the long term.

B. Every reasonable and practicable measure, consistent with the protection of human-dignity, will be taken to assure a work place free of alcohol and drugs. The use of liquor, drugs or any other illegal activities at the Project site, including parking lots, is strictly prohibited.

C. Employees will take their breaks only in their immediate work areas.

D. Acknowledging the safety concerns of Owner and its risk management professionals, we assure the Owner that the parties are committed to safe working practices on the project. The parties, drawing upon the comprehensive safety programs and resources developed by the union construction community, will comply with federal, state and local safety regulations. Both contractors and union craftsmen are well trained in safety practices and commit themselves to applying such practices on this job.

E. The Contractors and Unions agree that there will be no lockouts or work stoppages.

(1) The Contractors and Subcontractors shall not cause, incite, encourage or participate in any lockout of employees on the project during the term of this Agreement.

(2) The Union and its members, agents, representatives, and employees shall not allow, incite, encourage, condone or participate in any strike, walkout, slowdown, picketing, sympathy strike or other work stoppage of any nature whatsoever, whether jurisdictional or otherwise, or observe any picket of any nature during the term of this Agreement. Any such action by the Union or its members, agents, representatives or employees shall be considered a violation of this Agreement.

(3) All employees shall continue to work and to perform all their obligations on the project despite the expiration of any local or other collective bargaining agreement. Any future wage or fringe benefit increase, decrease or modification legally negotiated and established by appropriate local collective bargaining agreement of the Local Unions which are signatories to this Agreement shall be paid retroactively to the expiration date of the preceding local Agreement.

(4) Should any unauthorized strike, slowdown, stoppage of work or interference with construction occur, the Union shall take all necessary steps to bring such activity to a prompt resolution.

SECTION 9. Helmets To Hardhats

A. The Contractors and the Unions recognize a desire to facilitate the entry into the building and construction trades of veterans who are interested in careers in the building and construction industry. The Contractors and Unions agree to utilize the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center") and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

B. The Unions and Contractors agree to coordinate with the Center to create and maintain an integrated database of veterans interested in working on this Project and of apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

SECTION 10. Term of Agreement.

A. This Agreement shall become effective on _____, 20____, and shall remain in full force and effect as long as signatory contractors are working on this project.

B. Any of the undersigned parties shall have the right to terminate this Agreement by notifying all other parties in writing, within at least thirty (30) calendar days from the proposed termination date.

SECTION 11. Notices

The address and telephone number of all of the undersigned shall be on file with Owner's Director of Facility Services at the Highland Building, 1215 Houbolt Road, Joliet, Illinois, 60431, Attention: Patrick VanDuyne. All notices, request and other communications under this Agreement shall be in writing and shall be personally served or sent by certified mail, postage prepaid, return receipt requested, facsimile, or by licensed overnight courier to the appropriate party at the address set forth below or as may otherwise be on file with the Director of Physical Plant as provided herein. Notice shall be deemed given at the time delivered, if personally delivered, at the time indicated on the duly completed postal service return receipt, if delivered, at the time indicated on the duly completed postal service return receipt, if delivered by certified mail, at the time the facsimile is transmitted, if delivered by facsimile, or on the next business day after such notice is sent, if delivered by overnight courier. If a person elects to change their address, they shall do so by notifying the Owner's Director of Facility Services in the manner as provided for herein for the delivery of a notice.

SECTION 12. Miscellaneous Provisions.

A. Assignment. No party may assign its rights hereunder without the prior written consent of the other parties.

B. Entire Agreement. This Agreement contains the entire agreement between the parties with respect to the subject matter hereof and may not be modified, except in writing signed by the parties hereto. Furthermore, the parties hereto specifically agree that all prior agreements, whether written or oral, relating to the subject matter hereof shall be of no further force or effect from and after the date hereof.

C. Non-Partnership. This Agreement shall not create a partnership, joint venture or other joint enterprises between the parties hereto.

D. Severability. If any phrase, clause or provision of this Agreement is declared invalid or unenforceable by a court of competent jurisdiction, such phrase, clause or provisions shall be deemed severed from this Agreement, but will not affect any other provision of this Agreement, which shall otherwise remain in full force and effect. If any restriction or limitation in this Agreement is deemed to be unreasonable, onerous and unduly restrictive by a court of competent jurisdiction, it shall not be stricken in its entirety and held totally void and unenforceable, but shall not be deemed rewritten and shall remain effective to the maximum extent permissible within reasonable bounds.

E. Prevailing Party. The prevailing party or parties in any litigation arising out of or from this Agreement shall be entitled to recover from the non-prevailing party or parties all costs and expenses reasonably incurred litigating such action, including without limitation, reasonable attorneys' and paralegals' fees and court cost.

F. Neutral Reading. It is the intent of the parties that this Agreement be deemed to have been prepared by all of the parties hereto.

G. Waiver. No waiver of any breach or default hereunder shall be considered valid unless in writing and signed by the party given such waiver and no such waiver shall be deemed a waiver of any subsequent breach or default of the same or similar nature.

H. Headings. The section and subsection headings contained herein are for convenience of the parties only and are not intended to define or limit the context of said Sections and subsections.

I. Governing Law; Venue. The validity, construction and interpretation of this Agreement shall be governed by the State of Illinois. The parties hereto irrevocably agree that all actions or proceedings in any way, manner or respect arising out of or from or related to this Agreement shall be litigated only in the Circuit Court Twelfth Judicial Circuit, Will County, Illinois.

J. Counterparts. This Agreement may be executed in two or more counterparts, each of which may be deemed to be an original.

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year first above written.

SIGNED FOR THE OWNER:

PK Day

Firm: Joliet Junior College

Title: Director of Facility Services

Date: 4-15-09

Address: 1215 Houbolt Road
Joliet, Illinois 60431

SIGNED FOR THE UNION:

Ronald C. Fisi

Will County Building Trades Council

Title: President

Date: 4-15-09

Address: 2082 Oakleaf St.
Joliet IL 60436

SIGNED FOR THE ALLIANCE:

Bob Boish

Firm: Three River's Construction Alliance

Title: Co-Chair TRCA

Date: 4/15/09

Address: 2134 Maxim Dr.
Rockdale IL 60436

SIGNED FOR BY THE CONTRACTOR:

Firm: _____

Title: _____

Date: _____

Address: _____



*Skilled Union Craftsmen
Professional Union Contractors*

BLUEPRINT FOR SUCCESS

A Labor-Management Project Agreement

I. Preamble

To accomplish the goals of quality, cost effectiveness and timeliness requires that all participants exhibit a positive attitude intent on success. There must exist amongst all parties a willingness to cooperate fully in devoting themselves to the goals of the project.

This program has no room for adverse relationships, but only a true spirit of cooperation and commitment. It is essential that the work required to construct this project be accomplished in an efficient and economical manner so as to provide productivity, the highest levels of quality, and the total elimination of delays. This commitment will establish new plateaus in labor/management cooperation.

Therefore, Joliet Junior College, Illinois Community College District 525, of Will, Grundy, Kendall, LaSalle, Kankakee, Livingston and Cook, Illinois, (hereinafter referred to as the "Owner"), its subcontractor(s) of whatever tier, the Will & Grundy Counties Building Trades Council, and the THREE RIVERS' CONSTRUCTION ALLIANCE dedicate themselves to the goal that together, in full cooperation, local labor and management will produce a project of excellent quality, as economically as possible, in a safe environment, under favorable working conditions.

II. Introduction

This Agreement is entered into this day of by and between Joliet Junior College (hereinafter called the "Owner"); and (hereinafter called and the "Project Contractor"; and the Will & Grundy Counties Building Trades Council (hereinafter called the "Union"), acting in their own behalf and on behalf of their respective affiliates and members; and the THREE RIVERS CONSTRUCTION ALLIANCE, acting on their own behalf and on behalf of their respective affiliates and members, with respect to all construction projects at Joliet Junior College, which includes the Master Plan and Capital Improvement Plan projects thru located in Will County, Illinois.

It is understood by the parties to this Agreement that other contractors awarded construction work directly or indirectly by the "Owner" will execute this Agreement and become signatory contractors for the purpose of this work.

The intent of the parties to this Agreement is to establish labor and management cooperation between the Project Contractor, all Contractors and Subcontractors performing construction work on this project site, and the appropriate Unions signatory to this Agreement for the express purpose of producing a quality project on schedule and as economically as possible, in a safe environment under favorable working conditions.

III. Scope Of The Agreement

A. This Project Agreement shall apply and is limited to the recognized and accepted historical definition of new construction work under the direction of and performed by the Contractor(s), of whatever tier, which may include the Project Contractor, who have contracts awarded for such work on the Project. Such work shall include site preparation work and dedicated off-site work.

It is agreed that the Project Contractor shall require all Contractors of whatever tier who have been awarded contracts for work covered by this Agreement, to accept and be bound by the terms and conditions of this Project Agreement by executing the Letter of Assent (Attachment A) prior to commencing work. The Project Contractor shall assure compliance with this Agreement by the Contractors. It is further agreed that, where there is a conflict, the terms and conditions of this Project Agreement shall supersede and override terms and conditions of any and all other national, area, or local collective bargaining agreements, except for all work performed under the NTL Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, all instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, and the National Agreement of the International Union of Elevator Constructors, with the exception of Article V, VI, and VII of this Project Agreement, which shall apply to such work.

B. Nothing contained herein shall be construed to prohibit, restrict or interfere with the performance of any other operation, work, or function which may occur at the Project site or be associated with the development of the Project.

C. This Agreement shall only be binding on the signatory parties hereto and shall not apply to their parents, affiliates or subsidiaries.

D. The Owner and/or the Project Contractor have the absolute right to select any qualified bidder for the award of contracts on this Project without reference to the existence or non-existence of any agreements between such bidder and any party to this Agreement; provided, however, only that such bidder is willing, ready and able to become a party to and comply with this Project Agreement, should it be designated the successful bidder.

E. It is understood that the Owner, at its sole option, may terminate, delay and/or suspend any or all portions of the Project at any time.

F. It is understood that the liability of any employer and the liability of the separate unions under this Agreement shall be several and not joint. The unions agree that this Agreement does not have the effect of creating any joint employer status between or among the Owner, Contractor(s) or any employer.

IV. Labor-Management Cooperation Committee

The parties to this Agreement hereby reaffirm the necessity for joint cooperation and participation by Labor and Management in interpreting and analyzing the effectiveness of management's application of this Agreement as well as Labor's response and any other matter affecting quality, safety, working conditions and productivity. Therefore, to secure this end, it is hereby agreed that a "Labor-Management Cooperation Committee" will be established composed of three representatives from Labor and three representatives from Management; one representative from Labor and one from Management shall be Co-Chairmen of this Committee.

The Labor-Management Cooperation Committee shall meet a minimum of once each month, at the jobsite, and shall discuss the following: reports concerning any violation, dispute, questions or interpretation of the application of practices arising out of this Agreement; safety; working conditions; absenteeism; labor turnover; availability of qualified journeymen; need for training; and any other matter affecting productivity and efficiency on this project.

In the event a dispute is not resolved by the Labor-Management Cooperation Committee, such matter shall then be settled as outlined by the grievance procedure and/or arbitration provisions contained in Articles VII or VIII of this Agreement. The Labor-Management Cooperation Committee shall not have authority to render a decision involving a jurisdictional dispute.

V. Contractors' Commitment

A. Work assignments will be made in accordance with area practice, consistent with the efficient and economical performance of the work.

B. Before performing work at the job site, the Contractor or Subcontractors of whatever tier actually performing the work will become signatory to the appropriate collective bargaining agreement.

C. The Contractors and Subcontractors shall exercise their management rights. These rights shall include planning, directing, hiring, dismissal, lay-off, transferring, appointing foremen and general foremen and otherwise directing the work force.

D. The Project Contractor agrees that neither it nor any of its contractors or subcontractors will subcontract any work to be done on the Project except to a person, firm or corporation who is or agrees to become party to this Agreement. Any contractor or subcontractor working on the Project shall, as a condition to working on said Project, become signatory to and perform all work under the terms of this Agreement.

VI. Union (Craftsmen) Commitment

A. Qualified and skilled craftsmen will be furnished as required by the Contractor in the fulfillment of its obligations to the Owner.

B. Craftsmen shall be at their place of work at the regular starting time and shall remain at their place of work until quitting time. There shall be no limit on production by Craftsmen nor restrictions on the use of tools or equipment other than that which may be required by safety practice.

C. Where stewards are appointed by respective unions, the steward shall be a qualified craftsman performing the work of his craft who shall exercise no supervisory functions. There shall be no non-working stewards.

VII. Owner Commitment

A. The Owner agrees that during the life of this agreement he shall assign construction work on this project only to contractors who are signatory to this agreement and applicable local collective bargaining agreements.

VIII. Disputes & Grievances

A. This Agreement is intended to provide close cooperation between management and labor. Each of the Unions will assign a representative to this Project for the purpose of completing the construction of the Project economically, efficiently, continuously, and without interruptions, delays, or work stoppages.

B. The Contractors, Unions, and the employees, collectively and individually, realize the importance to all parties to maintain continuous and uninterrupted performance of the work of the Project, and agree to resolve disputes in accordance with the grievance-arbitration provisions set forth in this Article.

C. Any question or dispute arising out of and during the term of this Project Agreement (other than grievances not covered by a local Collective Bargaining Agreement or trade jurisdictional disputes) shall be considered a grievance and subject to resolution under the following procedures:

Step 1. (a) When any employee subject to the provisions of this Agreement feels he or she is aggrieved by a violation of this Agreement, he or she, through his or her local union business representative or job steward, shall, within five (5) working days after the occurrence of the violation, give notice to the work-site representative of the involved Contractor stating the provision(s) alleged to have been violated. The business representative of the local union or the job steward and the work-site representative of the involved Contractor and the Project Contractor shall meet and endeavor to adjust the matter within three (3) working days after timely notice has been given. The representative of the Contractor shall keep the meeting minutes and shall respond to the Union representative in writing (copying the Project Contractor) at the conclusion of the meeting but not later than twenty-four (24) hours thereafter. If they fail to resolve the matter within the prescribed period, the grieving party may, within forty-eight (48) hours thereafter, pursue Step 2 of the Grievance Procedure, provided the grievance is reduced to writing, setting forth the relevant information concerning the alleged grievance, including a short description thereof, the date on which the grievance occurred, and the provision(s) of the Agreement alleged to have been violated.

(b) Should the Local Union(s) or the Project Contractor or any Contractor have a dispute with the other party and, if after conferring, a settlement is not reached within three (3) working days, the dispute may be reduced to writing and proceed to Step 2 in the same manner as outlined herein for the adjustment of an employee complaint.

Step 2. The International Union Representative and the involved Contractor shall meet within seven (7) working days of the referral of a dispute to this second step to arrive at a satisfactory settlement thereof. Meeting minutes shall be kept by the Contractor. If the parties fail to reach an agreement, the dispute may be appealed in writing in accordance with the provisions of Step 3 within seven (7) calendar days thereafter.

Step 3. (a) If the grievance has been submitted but not adjusted under Step 2, either party may request in writing, within seven (7) calendar days thereafter, that the grievance be submitted to an Arbitrator mutually agreed upon by them. The Contractor and the involved Union shall attempt mutually to select an arbitrator, but if they are unable to do so, they shall request the American Arbitration Association to provide them with a list of arbitrators from which the Arbitrator shall be selected. The rules of the American Arbitration Association shall govern the conduct of the arbitration hearing. The decision of the Arbitrator shall be final and binding on all parties. The fee and expenses of such Arbitration shall be borne equally by the Contractor and the involved Local Union(s).

(b) Failure of the grieving party to adhere to the time limits established herein shall render the grievance null and void. The time limits established herein may be extended only by written consent of the parties involved at the particular step where the extension is agreed upon. The Arbitrator shall have the authority to make decisions only on issues presented to him or her, and he or she shall not have authority to change, amend, add to or detract from any of the provisions of this Agreement.

D. The Project Contractor and Owner shall be notified of all actions at Steps 2 and 3 and shall, upon their request, be permitted to participate in all proceedings at these steps.

IX. Jurisdictional Disputes

A. The assignment of work will be solely the responsibility of the Contractor performing the work involved; and such work assignments will be in accordance with the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

B. All jurisdictional disputes on this Project, between or among Building and Construction Trades Unions and employers, parties to this Agreement, shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department or any other plan or method of procedure that may be

adopted in the future by the Building and Construction Trades Department. Decisions rendered shall be final, binding and conclusive on the Contractors and Unions parties to this Agreement.

C. All jurisdictional disputes shall be resolved without the occurrence of any strike, work stoppage, or slow-down of any nature, and the Contractor's assignment shall be adhered to until the dispute is resolved. Individuals violating this section shall be subject to immediate discharge.

D. Each Contractor will conduct a pre-job conference with the appropriate Building and Construction Trades Council prior to commencing work. The Project Contractor and the Owner will be advised in advance of all such conferences and may participate if they wish.

X. Joint Commitment (Contractor/Union)

A. Utilization of Union apprentices will be maximized consistent with the best interest of the job in compliance with Local Union Agreements. The high level of union apprenticeship training will be maintained to provide the Industry with productive and knowledgeable craftsmen for the long term.

B. Every reasonable and practicable measure, consistent with the protection of human dignity, will be taken to assure a work place free of alcohol and drugs. The use of liquor, drugs or any other illegal activities at the Project site, including parking lots, is strictly prohibited.

C. Employees will take their breaks only in their immediate work areas.

D. Acknowledging the safety concerns of today's construction Owner and its risk management professionals, we assure the Owner that the parties are committed to safe working practices on the project. The parties, drawing upon the comprehensive safety programs and resources developed by the Union construction community, will comply with federal, state, and local safety regulations. Both contractors and union craftsmen are well trained in safety practices and commit themselves to applying such practices on this job.

E. The Contractors and Unions agree that there will be no lockouts or work stoppages.

(1) The Contractors and Subcontractors shall not cause, incite, encourage or participate in any lockout of employees on the project during the term of this Agreement.

(2) The Union and its members, agents, representatives, and employees shall not allow, incite, encourage, condone or participate in any strike, walkout, slowdown, picketing, sympathy strike or other work stoppage of any nature whatsoever, whether jurisdictional or otherwise, or observe any picket of any nature during the term of this Agreement. Any such action by the Union or its members, agents, representatives or employees shall constitute a violation of this Agreement.

(3) All employees shall continue to work and to perform all their obligations on the project despite the expiration of any local or other collective bargaining agreement. Any future wage or fringe benefit increase, decrease or modification legally negotiated and established by appropriate local collective bargaining agreements of the Local Unions which are signatories to this Agreement shall be paid retroactively to the expiration of the preceding local Agreement.

(4) Should any unauthorized strike, slowdown, stoppage of work or interference with construction occur, the Union shall take all necessary steps to bring such activity to a prompt resolution.

XI. Helmets To Hardhats

A. The Employers and the Unions recognize a desire to facilitate the entry into the building and construction trades of veterans who are interested in careers in the building and construction industry. The Employers and Unions agree to utilize the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center") and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

B. The Unions and Employers agree to coordinate with the Center to create and maintain an integrated database of veterans interested in working on this Project and of apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

XII. Term of Agreement

A. This Agreement shall become effective on April 15, 2009, and shall remain in full force and effect as long as signatory contractors are working on this project.

B. Either party shall have the right to terminate this Agreement by notifying all other parties, in writing, within at least thirty (30) calendar days from the proposed termination date.

FOR THE OWNER:

Gene Pruehl
JOLIET JUNIOR COLLEGE
TITLE: *President*
DATE: *4-15-09*

FOR THE PROJECT CONTRACTOR:

TITLE: _____
DATE: _____

FOR THE ALLIANCE:

Bob Bush
THREE RIVERS CONSTRUCTION
TITLE: *CO-CHAIR TRCA*
DATE: *4/15/09*

FOR THE BUILDING TRADES:

Ronald C. Fier
WILL & GRUNDY BUILDING TRADES
TITLE: *Presid.*
DATE: *4-15-09*



*Skilled Union Craftsmen
Professional Union Contractors*

BLUEPRINT FOR SUCCESS

A Labor-Management Project Agreement

Addendum To TRCA/JJC Project Labor Agreement Dated 4-15-09

1. It is agreed to by all parties that while the College has completed their Master Plan projects, the parties to the Agreement wish to continue on with the 'Blueprint for Success, A Labor-Management Project Agreement' signed on April 15, 2009. The conditions of the existing Agreement shall remain in effect thru April 2018 until such time as both parties have the opportunity to evaluate current and future construction projects at the College as explained in Article XII of the Agreement.
2. The pre-job conferences called for in Article IX Section D will apply to all bids with a gross value in excess of \$25,000.00. Bids less that the stated \$25,000.00 will be exempt from the pre-job conference but the OWNER agrees to notify TRCA of any such bid lettings in a timely manner.
3. This Agreement covers all new construction and improvement projects but is not intended to nor will it interfere with the OWNER's right to perform general routine maintenance on their facilities.

FOR THE OWNER:

[Signature]
Joliet Junior College

Judy Mitchell, Esq.
Printed Name

TITLE: *VP Administrative Svcs*

DATE: *3-9-15*

FOR THE BUILDING TRADES

[Signature]
Will & Grundy Counties Building Trades Council

Don Gregory
Printed Name

TITLE: *President*

DATE: *3-9-15*

FOR THE ALLIANCE:

[Signature]
T.R.C.A.

Thomas A. White
Printed Name

TITLE: *Executive Director*

DATE: *3-9-15*

Will County Prevailing Wage Rates posted on 12/16/2024

| Trade Title | Rg | Type | C | Base | Foreman | Overtime | | | | | Pension | Vac | Trng | Other Ins | Add OT 1.5x owed | Add OT 2.0x owed |
|--------------------------|-----|------|---|-------|---------|----------|-----|-----|-----|-------|---------|------|------|-----------|------------------|------------------|
| | | | | | | M-F | Sa | Su | Hol | H/W | | | | | | |
| ASBESTOS ABT-GEN | All | ALL | | 50.15 | 51.15 | 1.5 | 1.5 | 2.0 | 2.0 | 17.71 | 16.92 | 0.00 | 0.91 | | 0.00 | 0.00 |
| ASBESTOS ABT-MEC | All | BLD | | 41.27 | 44.57 | 1.5 | 1.5 | 2.0 | 2.0 | 15.84 | 16.02 | 0.00 | 0.90 | | 3.11 | 6.21 |
| BOILERMAKER | All | BLD | | 55.76 | 60.77 | 2.0 | 2.0 | 2.0 | 2.0 | 6.97 | 26.44 | 0.00 | 3.34 | 1.95 | 0.00 | 38.26 |
| BRICK MASON | All | BLD | | 52.06 | 57.27 | 1.5 | 1.5 | 2.0 | 2.0 | 12.70 | 24.54 | 0.00 | 1.24 | 0.00 | 3.99 | 7.98 |
| CARPENTER | All | ALL | | 55.11 | 60.62 | 2.0 | 2.0 | 2.0 | 2.0 | 12.89 | 30.48 | 0.70 | 0.93 | 0.00 | 0.00 | 0.00 |
| CEMENT MASON | All | ALL | | 47.70 | 49.70 | 2.0 | 1.5 | 2.0 | 2.0 | 12.70 | 32.80 | 0.00 | 0.80 | 0.00 | 0.00 | 0.00 |
| CERAMIC TILE FINISHER | All | BLD | | 47.09 | 47.09 | 1.5 | 1.5 | 2.0 | 2.0 | 13.00 | 16.82 | 0.00 | 1.09 | 0.00 | 5.17 | 10.34 |
| CERAMIC TILE LAYER | All | BLD | | 54.84 | 59.84 | 1.5 | 1.5 | 2.0 | 2.0 | 13.00 | 20.68 | 0.00 | 1.17 | 0.00 | 7.15 | 14.30 |
| COMMUNICATION TECHNICIAN | All | BLD | | 44.00 | 48.40 | 1.5 | 1.5 | 2.0 | 2.0 | 17.19 | 17.60 | 0.00 | 0.75 | 2.37 | 0.00 | 0.00 |
| ELECTRIC PWR EQMT OP | All | ALL | | 62.10 | 68.14 | 1.5 | 1.5 | 2.0 | 2.0 | 13.08 | 20.88 | 0.00 | 3.32 | 0.00 | 18.64 | 37.28 |
| ELECTRIC PWR GRNDMAN | All | ALL | | 48.44 | 68.14 | 1.5 | 1.5 | 2.0 | 2.0 | 10.20 | 16.29 | 0.00 | 2.60 | 0.00 | 14.55 | 29.09 |
| ELECTRIC PWR LINEMAN | All | ALL | | 62.10 | 68.14 | 1.5 | 1.5 | 2.0 | 2.0 | 13.08 | 20.88 | 0.00 | 3.32 | 0.00 | 18.64 | 37.28 |
| ELECTRICIAN | All | BLD | | 54.00 | 58.86 | 1.5 | 1.5 | 2.0 | 2.0 | 17.74 | 22.27 | 0.00 | 1.35 | 5.00 | 0.00 | 0.00 |
| ELEVATOR CONSTRUCTOR | All | BLD | | 67.84 | 76.32 | 2.0 | 2.0 | 2.0 | 2.0 | 16.18 | 20.96 | 5.42 | 0.75 | | 0.00 | 0.00 |
| GLAZIER | All | BLD | | 51.55 | 53.05 | 1.5 | 2.0 | 2.0 | 2.0 | 15.64 | 26.18 | 0.00 | 2.27 | 0.00 | 0.00 | 0.00 |
| HEAT/FROST INSULATOR | All | BLD | | 55.02 | 58.32 | 1.5 | 1.5 | 2.0 | 2.0 | 15.84 | 19.01 | 0.00 | 0.90 | | 4.60 | 9.20 |
| IRON WORKER | All | ALL | | 50.50 | 55.55 | 2.0 | 2.0 | 2.0 | 2.0 | 14.06 | 30.21 | 0.00 | 1.00 | | 0.00 | 0.00 |
| LABORER | All | ALL | | 50.15 | 50.90 | 1.5 | 1.5 | 2.0 | 2.0 | 17.71 | 16.92 | 0.00 | 0.91 | | 0.00 | 0.00 |
| LATHER | All | ALL | | 55.11 | 60.62 | 2.0 | 2.0 | 2.0 | 2.0 | 12.89 | 30.48 | 0.70 | 0.93 | 0.00 | 0.00 | 0.00 |
| MACHINIST | All | BLD | | 58.39 | 62.39 | 1.5 | 1.5 | 2.0 | 2.0 | 9.93 | 8.95 | 1.85 | 1.47 | | 0.00 | 0.00 |
| MARBLE FINISHER | All | ALL | | 39.50 | 53.55 | 1.5 | 1.5 | 2.0 | 2.0 | 12.70 | 22.32 | 0.00 | 0.73 | 0.00 | 2.88 | 5.76 |
| MARBLE SETTER | All | BLD | | 51.00 | 56.10 | 1.5 | 1.5 | 2.0 | 2.0 | 12.70 | 24.01 | 0.00 | 0.92 | 0.00 | 3.73 | 7.45 |
| MATERIAL TESTER I | All | ALL | | 40.15 | | 1.5 | 1.5 | 2.0 | 2.0 | 17.71 | 16.92 | 0.00 | 0.91 | | 0.00 | 0.00 |
| MATERIALS TESTER II | All | ALL | | 45.15 | | 1.5 | 1.5 | 2.0 | 2.0 | 17.71 | 16.92 | 0.00 | 0.91 | | 0.00 | 0.00 |
| MILLWRIGHT | All | ALL | | 55.11 | 60.62 | 2.0 | 2.0 | 2.0 | 2.0 | 12.89 | 30.48 | 0.70 | 0.93 | 0.00 | 0.00 | 0.00 |
| OPERATING ENGINEER | All | BLD | 1 | 60.80 | 64.80 | 2.0 | 2.0 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |

Will County Prevailing Wage Rates posted on 12/16/2024

| | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|---|-------|-------|-----|-----|-----|-----|-------|-------|------|------|------|------|------|
| OPERATING ENGINEER | All | BLD | 2 | 59.50 | 64.80 | 2.0 | 2.0 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |
| OPERATING ENGINEER | All | BLD | 3 | 56.95 | 64.80 | 2.0 | 2.0 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |
| OPERATING ENGINEER | All | BLD | 4 | 55.20 | 64.80 | 2.0 | 2.0 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |
| OPERATING ENGINEER | All | BLD | 5 | 64.55 | 64.80 | 2.0 | 2.0 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |
| OPERATING ENGINEER | All | BLD | 6 | 61.80 | 64.80 | 2.0 | 2.0 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |
| OPERATING ENGINEER | All | BLD | 7 | 63.80 | 64.80 | 2.0 | 2.0 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |
| OPERATING ENGINEER | All | FLT | 1 | 69.35 | 69.35 | 1.5 | 1.5 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |
| OPERATING ENGINEER | All | FLT | 2 | 67.85 | 69.35 | 1.5 | 1.5 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |
| OPERATING ENGINEER | All | FLT | 3 | 63.35 | 69.35 | 1.5 | 1.5 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |
| OPERATING ENGINEER | All | FLT | 4 | 58.85 | 69.35 | 1.5 | 1.5 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |
| OPERATING ENGINEER | All | FLT | 5 | 70.85 | 69.35 | 1.5 | 1.5 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |
| OPERATING ENGINEER | All | FLT | 6 | 58.85 | 69.35 | 1.5 | 1.5 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |
| OPERATING ENGINEER | All | HWY | 1 | 59.00 | 63.00 | 1.5 | 1.5 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |
| OPERATING ENGINEER | All | HWY | 2 | 58.45 | 63.00 | 1.5 | 1.5 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |
| OPERATING ENGINEER | All | HWY | 3 | 56.40 | 63.00 | 1.5 | 1.5 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |
| OPERATING ENGINEER | All | HWY | 4 | 55.00 | 63.00 | 1.5 | 1.5 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |
| OPERATING ENGINEER | All | HWY | 5 | 53.80 | 63.00 | 1.5 | 1.5 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |
| OPERATING ENGINEER | All | HWY | 6 | 62.00 | 63.00 | 1.5 | 1.5 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |
| OPERATING ENGINEER | All | HWY | 7 | 60.00 | 63.00 | 1.5 | 1.5 | 2.0 | 2.0 | 23.70 | 20.80 | 2.00 | 2.70 | 0.00 | 0.00 | 0.00 |
| PAINTER | All | ALL | | 53.05 | 59.68 | 1.5 | 1.5 | 1.5 | 2.0 | 15.76 | 16.19 | 0.00 | 1.86 | 0.00 | 0.00 | 0.00 |
| PAINTER - SIGNS | All | BLD | | 45.49 | 51.09 | 1.5 | 1.5 | 2.0 | 2.0 | 8.20 | 16.81 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| PILEDRIIVER | All | ALL | | 55.11 | 60.62 | 2.0 | 2.0 | 2.0 | 2.0 | 12.89 | 30.48 | 0.70 | 0.93 | 0.00 | 0.00 | 0.00 |
| PIPEFITTER | All | BLD | | 57.00 | 60.00 | 1.5 | 1.5 | 2.0 | 2.0 | 13.65 | 22.85 | 0.00 | 3.12 | 0.00 | 0.00 | 0.00 |
| PLASTERER | All | BLD | | 50.00 | 53.00 | 1.5 | 1.5 | 2.0 | 2.0 | 17.81 | 21.22 | 0.00 | 1.15 | | 0.00 | 0.00 |
| PLUMBER | All | BLD | | 58.55 | 62.05 | 1.5 | 1.5 | 2.0 | 2.0 | 17.75 | 17.74 | 0.00 | 1.83 | | 0.00 | 0.00 |
| ROOFER | All | BLD | | 50.25 | 55.25 | 1.5 | 1.5 | 2.0 | 2.0 | 11.98 | 17.34 | 0.00 | 1.11 | 0.00 | 0.00 | 0.00 |
| SHEETMETAL WORKER | All | BLD | | 56.35 | 60.86 | 1.5 | 1.5 | 2.0 | 2.0 | 15.41 | 19.83 | 0.00 | 1.79 | 2.62 | 0.00 | 0.00 |
| SPRINKLER FITTER | All | BLD | | 60.10 | 62.85 | 1.5 | 1.5 | 2.0 | 2.0 | 14.95 | 19.30 | 0.00 | 1.10 | 0.00 | 0.00 | 0.00 |
| STONE MASON | All | BLD | | 52.06 | 57.27 | 1.5 | 1.5 | 2.0 | 2.0 | 12.70 | 24.54 | 0.00 | 1.24 | 0.00 | 3.99 | 7.98 |
| SURVEY WORKER | All | BLD | | 56.50 | 57.50 | 1.5 | 1.5 | 2.0 | 2.0 | 17.75 | 14.15 | 0.00 | 1.49 | | 0.00 | 0.00 |

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| | | | | | | | | | | | | | | | | |
|--------------------------|-----|-----|---|-------|-------|-----|-----|-----|-----|-------|-------|------|------|------|------|------|
| SURVEY WORKER | All | HWY | | 56.50 | 57.50 | 1.5 | 1.5 | 2.0 | 2.0 | 17.75 | 14.15 | 0.00 | 1.49 | | 0.00 | 0.00 |
| TERRAZZO FINISHER | All | BLD | | 48.94 | 48.94 | 1.5 | 1.5 | 2.0 | 2.0 | 13.00 | 18.42 | 0.00 | 1.11 | 0.00 | 4.22 | 8.44 |
| TERRAZZO MECHANIC | All | BLD | | 52.85 | 56.35 | 1.5 | 1.5 | 2.0 | 2.0 | 13.00 | 19.81 | 0.00 | 1.15 | 0.00 | 4.47 | 8.94 |
| TRAFFIC SAFETY WORKER I | All | HWY | | 42.10 | 43.70 | 1.5 | 1.5 | 2.0 | 2.0 | 11.11 | 9.81 | 0.00 | 1.05 | 0.00 | 0.00 | 0.00 |
| TRAFFIC SAFETY WORKER II | ALL | HWY | | 43.10 | 44.70 | 1.5 | 1.5 | 2.0 | 2.0 | 11.11 | 9.81 | 0.00 | 1.05 | 0.00 | 0.00 | 0.00 |
| TRUCK DRIVER | All | ALL | 1 | 45.10 | | 1.5 | 1.5 | 2.0 | 2.0 | 11.65 | 13.76 | 0.00 | 0.25 | 0.00 | 0.00 | 0.00 |
| TRUCK DRIVER | All | ALL | 2 | 45.25 | | 1.5 | 1.5 | 2.0 | 2.0 | 11.65 | 13.76 | 0.00 | 0.25 | 0.00 | 0.00 | 0.00 |
| TRUCK DRIVER | All | ALL | 3 | 45.45 | | 1.5 | 1.5 | 2.0 | 2.0 | 11.65 | 13.76 | 0.00 | 0.25 | 0.00 | 0.00 | 0.00 |
| TRUCK DRIVER | All | ALL | 4 | 45.65 | | 1.5 | 1.5 | 2.0 | 2.0 | 11.65 | 13.76 | 0.00 | 0.25 | 0.00 | 0.00 | 0.00 |
| TUCK POINTER | All | BLD | | 51.53 | 52.53 | 1.5 | 1.5 | 2.0 | 2.0 | 10.05 | 22.66 | 0.00 | 1.15 | 0.00 | 0.00 | 0.00 |

Legend

Rg Region

Type Trade Type - All,Highway,Building,Floating,Oil & Chip,Rivers

C Class

Base Base Wage Rate

OT M-F Unless otherwise noted, OT pay is required for any hour greater than 8 worked each day, Mon through Fri. The number listed is the multiple of the base wage.

OT Sa Overtime pay required for every hour worked on Saturdays

OT Su Overtime pay required for every hour worked on Sundays

OT Hol Overtime pay required for every hour worked on Holidays

H/W Health/Welfare benefit

Vac Vacation

Trng Training

Other Ins Employer hourly cost for any other type(s) of insurance provided for benefit of worker.

Explanations WILL COUNTY

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including

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mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

CERAMIC TILE FINISHER

The grouting, cleaning, and polishing of all classes of tile, whether for interior or exterior purposes, all burned, glazed or unglazed products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials. The handling and unloading of all sand, cement, lime, tile, fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scarifying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

COMMUNICATIONS TECHNICIAN

Installation, operation, inspection, maintenance, repair and service of radio, television, recording, voice, sound and vision production and reproduction, telephone and telephone interconnect, facsimile, equipment and appliances used for domestic, commercial, educational and entertainment purposes, pulling of wire through conduit but not the installation of conduit.

MARBLE FINISHER

Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast

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tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

OPERATING ENGINEER - BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft; Concrete Paver 27E cu. ft. and Under; Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Heavy Duty Self-Propelled Transporter or Prime Mover; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes: Squeeze Cretes-Screw Type Pumps; Gypsum Bulker and Pump; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Operation of Tie Back Machine; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Laser Screed; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators (remodeling or renovation work); Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 4. Bobcats and/or other Skid Steer Loaders; Oilers; and Brick Forklift.

Class 5. Assistant Craft Foreman.

Class 6. Gradall.

Class 7. Mechanics; Welders.

OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

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Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines; ABG Paver; Backhoes with Caisson Attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower Cranes of all types: Creter Crane: Spider Crane; Crusher, Stone, etc.; Derricks, All; Derrick Boats; Derricks, Traveling; Dredges; Elevators, Outside type Rack & Pinion and Similar Machines; Formless Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Heavy Duty Self-Propelled Transporter or Prime Mover; Hydraulic Backhoes; Backhoes with shear attachments up to 40' of boom reach; Lubrication Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig; Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill Grinder; Slip-Form Paver; Snow Melters; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel); Operation of Tieback Machine; Tractor Drawn Belt Loader; Tractor Drawn Belt Loader (with attached pusher - two engineers); Tractor with Boom; Tractaire with Attachments; Traffic Barrier Transfer Machine; Trenching; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5 ft. in diameter and over tunnel, etc; Underground Boring and/or Mining Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine - Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; Hydro Excavating (excluding hose work); Laser Screed; All Locomotives, Dinky; Off-Road Hauling Units (including articulating) Non Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper - Single/Twin Engine/Push and Pull; Scraper - Prime Mover in Tandem (Regardless of Size); Tractors pulling attachments, Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats; Tamper-Form-Motor Driven.

Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Vacuum Trucks (excluding hose work); Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. SkidSteer Loader (all); Brick Forklifts; Oilers.

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Class 6. Field Mechanics and Field Welders

Class 7. Dowell Machine with Air Compressor; Gradall and machines of like nature.

OPERATING ENGINEER - FLOATING

Class 1. Craft Foreman; Master Mechanic; Diver/Wet Tender; Engineer; Engineer (Hydraulic Dredge).

Class 2. Crane/Backhoe Operator; Boat Operator with towing endorsement; Mechanic/Welder; Assistant Engineer (Hydraulic Dredge); Leverman (Hydraulic Dredge); Diver Tender.

Class 3. Deck Equipment Operator, Machineryman, Maintenance of Crane (over 50 ton capacity) or Backhoe (115,000 lbs. or more); Tug/Launch Operator; Loader/Dozer and like equipment on Barge, Breakwater Wall, Slip/Dock, or Scow, Deck Machinery, etc.

Class 4. Deck Equipment Operator, Machineryman/Fireman (4 Equipment Units or More); Off Road Trucks; Deck Hand, Tug Engineer, Crane Maintenance (50 Ton Capacity and Under) or Backhoe Weighing (115,000 pounds or less); Assistant Tug Operator.

Class 5. Friction or Lattice Boom Cranes.

Class 6. ROV Pilot, ROV Tender

SURVEY WORKER

Operates survey equipment (such as levels, transits, data collectors, GPS and robotic total stations) for the purpose of performing construction layout and/or grade checking.

SURVEY FOREMAN

Operates survey equipment (such as levels, transits, data collectors, GPS and robotic total stations) for the purpose of performing construction layout and/or grade checking; oversees survey crew operations; and/or coordinates work of survey crews.

TRAFFIC SAFETY Worker I

Traffic Safety Worker I - work associated with the delivery, installation, pick-up and servicing of safety devices during periods of roadway construction, including such work as set-up and maintenance of barricades, barrier wall reflectors, drums, cones, delineators, signs, crash attenuators, glare screen and other such items, and the layout and application or removal of conflicting and/or temporary roadway markings utilized to control traffic in construction zones, as well as flagging for these operations.

TRAFFIC SAFETY WORKER II

Work associated with the installation and removal of permanent pavement markings and/or pavement markers including both installations performed by hand and installations performed by truck.

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TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION

Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters; Unskilled Dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turnatrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnatrailers or turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front.

TERRAZZO FINISHER

The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and Terrazzo work, floors, base, stairs, and wainscoting by hand or machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work

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performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

MATERIAL TESTER & MATERIAL TESTER/INSPECTOR I AND II

Notwithstanding the difference in the classification title, the classification entitled "Material Tester I" involves the same job duties as the classification entitled "Material Tester/Inspector I". Likewise, the classification entitled "Material Tester II" involves the same job duties as the classification entitled "Material Tester/Inspector II".

CERTIFICATION OF CONTRACT/BIDDER

The below signed contractor/bidder hereby certifies that it is not barred from bidding on this or any other contract due to any violation of either Section 33E-3 or 33E-4 of Article 33E, Public Contracts, of the Illinois Criminal Code of 1961, as amended. This certification is required by Public Act 85-1295. This Act relates to interference with public contracting, bid rigging and rotating, kickbacks and bribery.

SIGNATURE OF CONTRACTOR/BIDDER

TITLE

DATE

THIS FORM **MUST** BE SCANNED AND SUBMITTED WITH YOUR BID

**CERTIFICATE OF COMPLIANCE WITH
ILLINOIS DRUG-FREE WORKPLACE ACT**

_____, does hereby certify pursuant to the *Illinois Drug-Free Workplace Act* (30 ILCS 580/) that [he, she, it] shall provide a drug-free workplace for all employees engaged in the performance of work under the contract by complying with the requirements of the *Illinois Drug-Free Workplace Act* and, further certifies, that [he, she, it] is not ineligible for award of this contract by reason of debarment for a violation of the *Illinois Drug-Free Workplace Act*.

By Authorized Agent

Date

SUBSCRIBED AND SWORN TO before me
This ____ day of _____, 20__.

NOTARY PUBLIC

EXECUTE AND ATTACH TO PROPOSAL FORM

JOLIET JUNIOR COLLEGE – REQUEST FOR BID

DRAWINGS ARE AVAILABLE ON THE FOLLOWING WEBSITE:

WWW.JJC.EDU/COMMUNITY/VENDORS

BID FORM

To: Joliet Junior College
 1215 Houbolt Road
 Joliet, IL 60431-8938

Project: _____

Date: _____

Submitted by:

 (Full Name)

 (Address)

 (City, State, Zip)

 (Phone) (Fax) (Email)

PART 1 OFFER

Having examined the site and having familiarized itself with the conditions affecting the cost of the work associated with the _____, and with the bidding documents, Bidder hereby proposes to perform everything required and to furnish all labor, materials, necessary tools, expendable equipment and transportation services necessary to complete in a workmanlike manner the subdivision of work stated above in accordance with the bidding documents for the following sums:

| | |
|---------------------------------------|-------------|
| Base Bid: | |
| Allowance: | \$15,000.00 |
| Total Base Bid with Allowance: | |

Base Bid with Allowance:

Dollars(\$ _____)

Write amount in both alpha and numeric, in case of discrepancy the lesser amount shown will govern.

We have included herewith, the Security Deposit as required by the Instructions to Bidders.

PART 2 ACCEPTANCE

This offer shall be open to acceptance and is irrevocable for thirty (30) days from the Bid closing date.

If the bid is accepted by the Owner within the time period stated above, we will:

- A. Execute the Agreement within ten (10) days of receipt of Notice of Award.
- B. Furnish the required bonds within ten (10) days of receipt of Notice of Award in the form described in the Instruction to Bidders.
- C. Furnish the required Certificate of Insurance within ten (10) days of receipt of Notice of Award in the form and amounts described in the Instruction to Bidders.
- D. Commence work as established by the written Notice to Proceed.

If this Bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bonds(s), the Security Deposit shall be forfeited as damages to the Owner by reason of our failures.

In the event our Bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

PART 3 CONTRACT TIME

If the Bid is accepted, we will:

- A. Complete the work in manner consistent to meet the requirements of the schedule (_____) consecutive calendar days from the date established as the Date of Commencement in the Notice to Proceed.
- B. Contractor has examined the Schedule included in these documents and takes no exception, or records the following exceptions:

PART 4 CONTRACTOR'S FEES FOR CHANGES IN THE WORK

Lump Sum of Time and Materials Changes: We the undersigned bidder agree that the following percentages for overhead and profit shall be added to job costs for the

net amount of work added to or deleted from the contract by written lump sum or time and material change orders recommended by the Engineer and approved by the Owner:

Add to net extra for job costs for additional work performed by:

Our own forces 12%

Our subcontractor 5% (including assigned subcontractors)

Note: Insurance, bond, and taxes are considered as job cost items and are not included in the percentages listed above.

PART 5 ADDENDA

The following Addenda have been received. The modifications to the Bid Documents noted therein have been considered and all costs thereto are included in the Bid Sum.

Addendum # _____ Dated _____

Addendum # _____ Dated _____

Addendum # _____ Dated _____

PART 6 SUBCONTRACTORS

A. The following work will be performed (or provided) by the Subcontractors we have indicated below:

| | <u>Name of Subcontractor</u> | <u>Work Performed</u> |
|----|------------------------------|-----------------------|
| 1. | _____ | _____ |
| 2. | _____ | _____ |
| 3. | _____ | _____ |
| 4. | _____ | _____ |

B. We understand, and hereby agree, that we are obligated to use the indicated subcontractors, unless prior written permission to change has been obtained from the Owner.

PART 7 RELATED WORK EXPERIENCE

List a minimum of three jobs of similar type and scope performed in the last five years:

1. Client: _____
Building: _____
Phone: _____
Contact Name: _____
Dollar Amount: _____

2. Client: _____
Building: _____
Phone: _____
Contact Name: _____
Dollar Amount: _____

3. Client: _____
Building: _____
Phone: _____
Contact Name: _____
Dollar Amount: _____

PART 8 BID FORM ADDITION

Apprenticeship and Training Certification

In accordance with the Illinois Procurement Code, the Bidder certifies that the work to be performed by it and/or its subcontractors shall, at the time of such bid opening and at the time of the performance of work pursuant to the terms of this Contract, shall have participated in the approved apprenticeship and training programs as provided for above. The bidder shall list, in the space below, the official name of the program sponsor holding the certificate of registration or all types of work or crafts in which the bidder is a participant and that will be performed by the bidder and its sub-contractor's employees. Work that will be sub-contracted shall be indicated to be subcontracted work as provided for herein. **Failure to list required information may result in disqualification of bid.**

PART 9 CONTRACTOR EVALUATION

Upon completion of the project, a Construction Contractor Performance Evaluation form will be completed by the A/E and the JJC Project Coordinator. The contractor will be evaluated in the following categories:

- Professionally Administered and Supervised Work
- Business Practices
- Overall Performance
- Workmanship
- Timeliness
- Project Management

PART 10 BID FORM SIGNATURES(S)

The Corporate Seal of:

(Bidder – please print the full name of your Proprietorship, Partnership, or Corporation)

Was hereunto affixed in the presence of:

(Authorized signing officer) (Title)

(Seal)

(Authorized signing officer) (Title)

If the bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

END OF SECTION